

The image shows the front cover of the Roland F-110 Owner's Manual. The cover has a dark gray background with a pattern of light gray circles. The text is white and centered. At the top, there is a faint, large 'R' logo. The main title 'F-110' is in a large, bold font. Below it, 'Roland Digital Piano' is written in a smaller font. Further down, 'Owner's Manual' is written in a medium-sized font. At the bottom, the word 'Roland' is written in a very large, light gray font that spans the width of the cover.

F-110

Roland Digital Piano

Owner's Manual

Roland

For the U.K.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.

For EU Countries



This product complies with the requirements of EMC Directive 2004/108/EC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.

This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

For C.A. US (Proposition 65)

WARNING

This product contains chemicals known to cause cancer, birth defects and other reproductive harm, including lead.

Look what you can do with the **F-110**

Play the piano

Play various sounds **page 24**

The F-110 contains more than three hundred sounds for you to enjoy playing.

Adjust the keyboard touch **page 24**

You can adjust the keyboard touch sensitivity to suit your playing strength.

Change the tuning of the keyboard **page 26**

You can use the “Transpose” function to transpose the pitch of the keyboard. You can also change the temperament to play Baroque music and other classical music using historically correct tunings.

Play duets **page 50**

You can divide the keyboard into left and right sections and play them as though there were two pianos.

Use the metronome **page 30**

You can perform while listening to a metronome.

Enhance the **sound**

Make the sound deeper **page 45**

You can produce the natural resonance and spaciousness that is characteristic of a grand piano.

Make the sound more lively **page 47**

You can make the sound clearer and more lively.

Add reverberation to the sound **page 25**

You can add reverberation (reverb) to simulate the sensation of playing in a concert hall.

Play back songs

Play back the internal songs

► page 32

The F-110 contains 65 piano songs.

For the titles of the internal songs, refer to "Internal Song List."

Play back parts separately

► page 33

You can choose to have the right hand, left hand, or accompaniment part be played back while you practice a different part.

Record

Record your own performances

► page 36

It's easy to record what you play. Such recordings give you an opportunity to evaluate your progress. You can also record each hand separately.

Save your performances

► page 41

Songs you record can be saved in internal memory.

Convenient function

Disable the panel buttons

► page 61

You can enable Panel Lock so that the buttons will be inoperable.

This is a convenient way to prevent unintended changes in settings while you're performing.

Introduction

Thank you, and congratulations on your choice of the F-110. To ensure that you obtain the maximum enjoyment and take full advantage of the F-110's functionality, please read this owner's manual carefully.

About the Manual

You should first read the "Before You Play" (p. 19) section of the owner's manual (this document). This explains how to connect the AC adaptor and turn on the power.

This owner's manual explains everything from basic operations that use the F-110's playback functions to more advanced operations, such as using the F-110 to record a song.

Conventions in this Manual

In order to explain the operations as clearly as possible, this manual uses the following conventions.

- Text enclosed in square brackets [] indicates the name of a button or a knob, such as the [Piano] button.
- Lines that begin with **NOTE** or an asterisk * are cautionary statements that you must be sure to read.
- The numbers of pages that you can turn to for additional, related information are given like this: (p. **).
- The explanations in this manual include illustrations that depict what should typically be shown by the display. Note, however, that your unit may incorporate a newer, enhanced version of the system (e.g., includes newer sounds), so what you actually see in the display may not always match what appears in the manual.

The F-110 is a stylish, lightweight, and compact digital piano. It may fall over if substantial force is applied, so please take care not to place it in an unstable location, or allow people to run around near it.

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (p. 11; p. 14). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, this owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

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Main Features

Piano sounds with rich resonance and wide expressive range

This instrument features a piano sound generator that utilizes stereo sampling, so it is capable of faithfully recreating the sound of a high-quality concert grand piano, realistically reproducing even the finest details, including the sound of the hammers striking the strings. With a maximum polyphony of 128 notes, it has ample capability even for performances that make full use of pedaling.

More than three hundred different sounds covering not only piano, but a wide range of other instruments are built-in. You can also play drum sets from the keyboard.

The playing feel of a grand piano

The PHA alpha II keyboard gives you a weighty playing feel in the low register while becoming lighter in the high register, replicating the authentic feel of a piano.

The pedal position is detected smoothly, allowing you to vary the effect by changing the depth to which you press the pedal. You can take advantage of the way in which subtle differences in pedaling affect the sound.

Compact design

The cabinet depth of only 34 cm leaves you free to place the F-110 anywhere in your room, and the choice of cabinet variations (satin black and white) will cater to all tastes. The folding lid allows the keyboard to be safely covered when closed and also serves as a music rest when raised up.

The versatile functionality you expect from a digital piano

Replicating the ambience of a concert hall

In addition to a high-quality reverb effect, these instruments also feature a 3D Sound Control function, which replicates the spatial depth of a full concert grand piano, and a Dynamic Sound Control function, which enhances the consistency and power of the sound. Even when performing through headphones, you can use these effects to enjoy sounds with superb presence.

Convenient functions to help you practice, and built-in piano songs with accompaniment

A metronome function, a three-track recorder, and internal preset songs with orchestral accompaniment make this electronic piano an excellent choice for piano lessons.

Performing and saving data

The data you've recorded using the recorder can be saved in the F-110's internal memory.

General MIDI

The General MIDI is a set of recommendations which seeks to provide a way to go beyond the limitations of proprietary designs, and standardize the MIDI capabilities of sound generating devices. Sound generating devices and music files that meets the General MIDI standard bears the General MIDI logo. Music files bearing the General MIDI logo can be played back using any General MIDI sound generating unit to produce essentially the same musical performance.

General MIDI 2

The upwardly compatible General MIDI 2 recommendations pick up where the original General MIDI left off, offering enhanced expressive capabilities, and even greater compatibility. Issues that were not covered by the original General MIDI recommendations, such as how sounds are to be edited, and how effects should be handled, have now been precisely defined. Moreover, the available sounds have been expanded. General MIDI 2 compliant sound generators are capable of reliably playing back music files that carry either the General MIDI or General MIDI 2 logo.

In some cases, the conventional form of General MIDI, which does not include the new enhancements, is referred to as "General MIDI 1" as a way of distinguishing it from General MIDI 2.

GS Format

The GS Format is Roland's set of specifications for standardizing the performance of sound generating devices. In addition to including support for everything defined by the General MIDI, the highly compatible GS Format additionally offers an expanded number of sounds, provides for the editing of sounds, and spells out many details for a wide range of extra features, including effects such as reverb and chorus. Designed with the future in mind, the GS Format can readily include new sounds and support new hardware features when they arrive. Since it is upwardly compatible with the General MIDI, Roland's GS Format is capable of reliably playing back GM Scores equally as well as it performs GS music files (music files that have been created with the GS Format in mind).

XGlite

XG is a tone generator format of YAMAHA Corporation, that defines the ways in which voices are expanded or edited and the structure and type of effects, in addition to the General MIDI 1 specification. XGlite is a simplified version of XG tone generation format. You can play back any XG music files using an XGlite tone generator. However, keep in mind that some music files may play back differently compared to the original files, due to the reduced set of control parameters and effects.

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USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠ WARNING and ⚠ CAUTION Notices

⚠ WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠ CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

	The ⚠ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The  symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The  symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING

⚠ WARNING

Do not disassemble or modify

Do not open (or modify in any way) the unit or its AC adaptor.



Do not repair or replace parts

Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.



Do not use or store in the following types of locations

- Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
- Damp (e.g., baths, washrooms, on wet floors); or are
- Exposed to steam or smoke; or are
- Subject to salt exposure; or are
- Humid; or are
- Exposed to rain; or are
- Dusty or sandy; or are
- Subject to high levels of vibration and shakiness.



⚠ WARNING

Do not place in an unstable location

Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.



Connect the AC adaptor to an outlet of the correct voltage

Be sure to use only the AC adaptor supplied with the unit. Also, make sure the line voltage at the installation matches the input voltage specified on the AC adaptor's body. Other AC adaptors may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock.



Use only the included power cord

Use only the attached power-supply cord. Also, the supplied power cord must not be used with any other device.



Do not bend the power cord or place heavy objects on it

Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!



⚠ WARNING

Avoid extended use at high volume

This unit, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level, or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist.



Do not insert foreign objects

Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit.



Turn off the power if an abnormality or malfunction occurs

Immediately turn the power off, remove the AC adaptor from the outlet, and request servicing by your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page when:

- The AC adaptor, the power-supply cord, or the plug has been damaged; or
- If smoke or unusual odor occurs
- Objects have fallen into, or liquid has been spilled onto the unit; or
- The unit has been exposed to rain (or otherwise has become wet); or
- The unit does not appear to operate normally or exhibits a marked change in performance.



Do not allow children to use without supervision

In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.



Do not drop or subject to strong impact

Protect the unit from strong impact. (Do not drop it!)



⚠ WARNING

Do not share an outlet with unreasonable number of other devices

Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.



Before using the unit in a foreign country

Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.



⚠ CAUTION

Place in a well ventilated location

The unit and the AC adaptor should be located so their location or position does not interfere with their proper ventilation.



Grasp the plug when connecting or disconnecting the power cord

Always grasp only the plug on the AC adaptor cord when plugging into, or unplugging from, an outlet or this unit.



Periodically wipe the dust off the AC adaptor plug

At regular intervals, you should unplug the AC adaptor and clean it by using a dry cloth to wipe all dust and other accumulations away from its prongs. Also, disconnect the power plug from the power outlet whenever the unit is to remain unused for an extended period of time. Any accumulation of dust between the power plug and the power outlet can result in poor insulation and lead to fire.



Manage cables for safety

Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.



CAUTION

Do not stand or place heavy objects on this unit

Never climb on top of, nor place heavy objects on the unit.



Do not connect or disconnect the AC adaptor with wet hand

Never handle the AC adaptor or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit.



Cautions when moving this unit

If you need to move the instrument, take note of the precautions listed below. At least two persons are required to safely lift and move the unit. It should be handled carefully, all the while keeping it level. Make sure to have a firm grip, to protect yourself from injury and the instrument from damage.



- Make sure that the screws that hold together the stand have not become loose. If any are loose, tighten them firmly.
- Disconnect the power cord.
- Disconnect all cords coming from external devices.
- Close the lid.

Beware of burns

The area around the DC In jack and the cable hook on the rear panel will reach a high temperature; be careful to avoid burning yourself.



CAUTION

Unplug the AC adaptor from the AC outlet before cleaning

Before cleaning the unit, turn off the power and unplug the AC adaptor from the outlet (p. 19).



If there is a possibility of lightning strike, disconnect the AC adaptor from the AC outlet

Whenever you suspect the possibility of lightning in your area, disconnect the AC adaptor from the outlet.



Cautions when opening/closing the lid

Be careful when opening/closing the lid so you do not get your fingers pinched (p. 20). Adult supervision is recommended whenever small children use the unit.



Keep small items out of the reach of children

To prevent small items such as the following from being swallowed accidentally, keep them out of the reach of children.

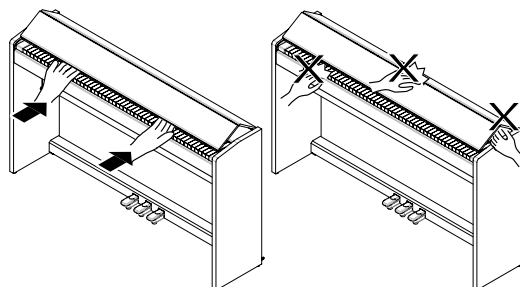


- Included items
 - Stand assembly screws
 - Cord clamp
 - Wing nut for headphone hook
- Removed parts
 - Volume knob

Caution

The F-110 has a folding lid. Open and close the lid slowly and carefully, taking care that your hand or finger is not pinched in the gaps on the top or the left and right sides of the lid (p. 20).

In particular, any child that uses the F-110 must be supervised and instructed by an adult.



IMPORTANT NOTES

Power Supply

- Do not connect this unit to same electrical outlet that is being used by an electrical appliance that is controlled by an inverter (such as a refrigerator, washing machine, microwave oven, or air conditioner), or that contains a motor. Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- The AC adaptor will begin to generate heat after long hours of consecutive use. This is normal, and is not a cause for concern.
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Also, do not allow lighting devices that normally are used while their light source is very close to the unit (such as a piano light), or powerful spotlights to shine upon the same area of the unit for extended periods of time. Excessive heat can deform or discolor the unit.
- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
- Do not allow rubber, vinyl, or similar materials to remain on the unit for long periods of time. Such objects can discolor or otherwise harmfully affect the finish.
- Do not allow objects to remain on top of the keyboard. This can be the cause of malfunction, such as keys ceasing to produce sound.

- Do not paste stickers, decals, or the like to this instrument. Peeling such matter off the instrument may damage the exterior finish.
- Depending on the material and temperature of the surface on which you place the unit, its rubber feet may discolor or mar the surface.
You can place a piece of felt or cloth under the rubber feet to prevent this from happening. If you do so, please make sure that the unit will not slip or move accidentally.

Maintenance

- To clean the unit, use a dry, soft cloth; or one that is slightly dampened. Try to wipe the entire surface using an equal amount of strength, moving the cloth along with the grain of the wood. Rubbing too hard in the same area can damage the finish.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.


Repairs and Data

- Please be aware that all data contained in the unit's memory may be lost when the unit is sent for repairs. Important data should always be backed up in another MIDI device (e.g., a sequencer), or written down on paper (when possible). During repairs, due care is taken to avoid the loss of data. However, in certain cases (such as when circuitry related to memory itself is out of order), we regret that it may not be possible to restore the data, and Roland assumes no liability concerning such loss of data.

Additional Precautions

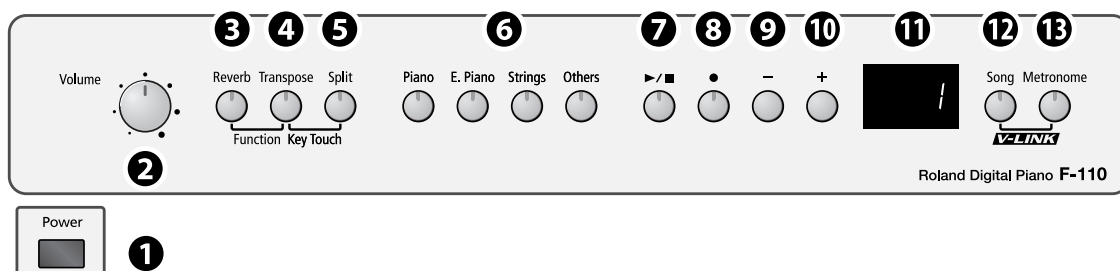
- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of losing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit's memory in another MIDI device (e.g., a sequencer).
- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit's memory once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.

- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Do not apply undue force to the music stand while it is in use.
- Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.
- Before opening or closing the keyboard lid, always make sure that no pets or other small animals are located on top of the instrument (in particular, they should be kept away from the keyboard and its lid).

- GS () is a registered trademark of Roland Corporation.
- MMP (Moore Microprocessor Portfolio) refers to a patent portfolio concerned with microprocessor architecture, which was developed by Technology Properties Limited (TPL). Roland has licensed this technology from the TPL Group.

Names of Things and What They Do

Front Panel



1 [Power] switch

Turns the power on/off (p. 21).

2 [Volume] knob

Adjusts the overall volume of the F-110 (p. 21).

If headphones are connected, this adjusts the headphone volume (p. 22).

3 [Reverb] button

Adds reverberation similar to what you would hear when performing in a concert hall (p. 25).

4 [Transpose] button

Transposes the keyboard and/or song (p. 26).

By holding down this button and pressing the [Split] button, you can adjust the touch sensitivity of the keyboard (p. 24).

5 [Split] button

Divides the keyboard into right-hand and left-hand sections, allowing you to play a different sound in each section (p. 28).

6 TONE buttons

Here you can select the sound (tone group) you'll hear when you play the keyboard (p. 24).

7 [▶/■] (Play/Stop) button

Use this button to play/stop an internal preset song or a song you've recorded (p. 32).

This button is also used to begin recording your performance (p. 36).

8 [●] (Rec) button

This lets you record your own performance into the F-110 (p. 36).

9 [-] button

You can select the preceding song by pressing this button while the song select screen is displayed (p. 32).

If you hold down this button while a song is playing, the song will be rewound (p. 32).

Use this button to select variations of the sound you're playing on the keyboard (p. 24). This button is also used to edit various values.

Pressing [-] and [+] simultaneously will recall the factory setting for the selected parameter.

10 [+] button

You can select the next song by pressing this button while the song select screen is displayed (p. 32).

If you hold down this button while a song is playing, the song will be fast-forwarded (p. 32).

Use this button to select variations of the sound you're playing on the keyboard (p. 24). This button is also used to edit various values.

Pressing [-] and [+] simultaneously will recall the factory setting for the selected parameter.

11 Display

This shows the sound number, song number, tempo, time signature, the names of the functions you select and the value of various settings.

12 [Song] button

This lets you select the song to play back (p. 32). You can also press it to check the current tempo or time signature setting.

13 [Metronome] button

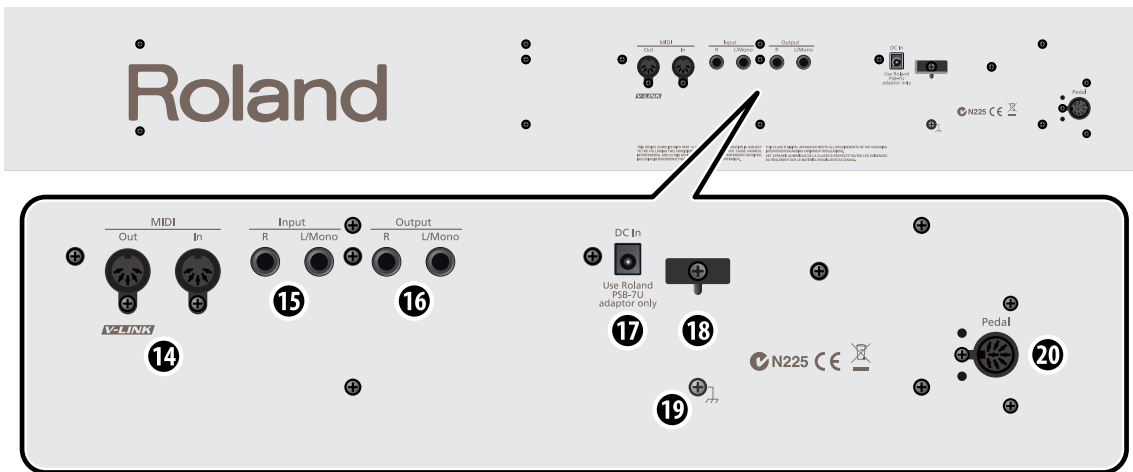
Turns the metronome on/off (p. 30).

This also lets you sound a count before the song begins, so that you can match the timing of your playing to the song (p. 31).

Disabling the panel buttons

By using the Panel Lock function you can disable all of the buttons. This allows you to prevent unintended changes in the settings during a performance. For details, refer to “Disabling the Buttons (Panel Lock)” (p. 61).

Rear Panel



14 MIDI In/Out connectors

You can connect these to external MIDI devices to transfer performance data (p. 64).

15 Input jacks (L/Mono, R)

Here you can connect an audio player or another electronic musical instrument, and listen to the connected device through the F-110's speakers (p. 63).

16 Output jacks (L/Mono, R)

You can connect an external powered speakers here to reproduce the F-110's sound (p. 62).

17 DC In jack (DC Inlet)

Connect the supplied AC adaptor here (p. 19).

18 Cord hook

Use this to fix in place the cord from the supplied AC adaptor (p. 19).

19 Ground terminal

For added safety, you can connect this screw to a grounding rod or a grounded earth wire (p. 19).

20 Pedal connector

Connect the pedal cord of the dedicated stand to this connector (p. 19).

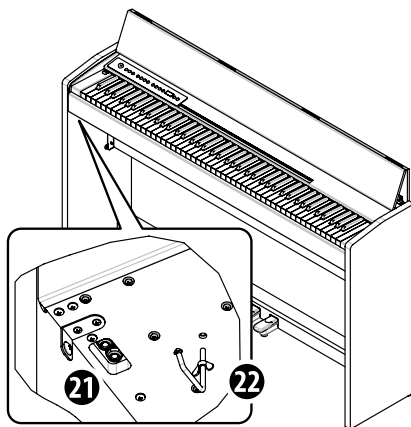
Bottom Panel (Front Left)

21 Headphone jacks

Here you can connect headphones. The F-110 lets you use two sets of headphones simultaneously (p. 22).

22 Headphone hook

Whenever you are not using the headphones, you can hang them on the headphone hook (p. 23).



Before You Play

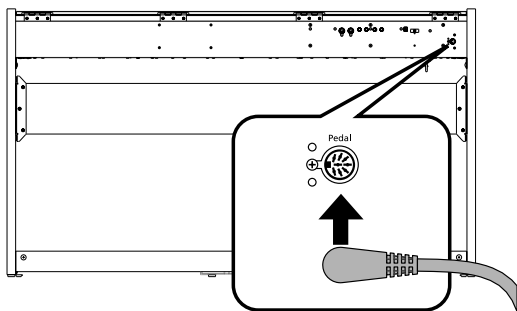
Getting Ready to Play

Connecting the Pedal Cord

Connect the pedal cord to the Pedal connector on the rear panel of F-110.

NOTE

Plug the pedal cable all the way into the Pedal connector.

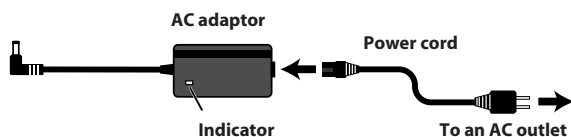


Connecting the AC Adaptor

NOTE

To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.

1. Connect the supplied AC adaptor and power cord.



NOTE

Place the AC adaptor so the side with the indicator (see illustration) faces upwards and the side with textual information faces downwards.

The indicator will light when you plug the AC adaptor into an AC outlet.

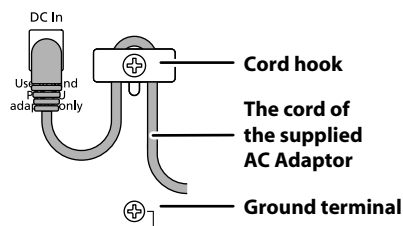
NOTE

Depending on your region, the included power cord may differ from the one shown above.

2. Connect the AC adaptor to the DC In jack on the rear panel.

3. As shown in the diagram, loop the AC adaptor cord around the cord hook to fasten it in place.

Rear panel



NOTE

To prevent the inadvertent disruption of power to your unit (should the plug be pulled out accidentally), and to avoid applying undue stress to the AC adaptor jack, anchor the power cord using the cord hook, as shown in the illustration.

4. Plug the Power cord into a power outlet.

If necessary, secure the AC adaptor cord with the cord clamps

NOTE

Be sure to use only the AC adaptor supplied with the unit. Also, make sure the line voltage at the installation matches the input voltage specified on the AC adaptor's body. Other AC adaptors may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock

NOTE

Depending on the circumstances of a particular setup, you may experience a discomforting sensation, or perceive that the surface feels gritty to the touch when you touch this device, microphones connected to it, or the metal portions of other objects, such as guitars. This is due to an infinitesimal electrical charge, which is absolutely harmless. However, if you are concerned about this, connect the ground terminal (see figure) with an external ground. When the unit is grounded, a slight hum may occur, depending on the particulars of your installation. If you are unsure of the connection method, contact the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

Unsuitable places for connection

- Water pipes (may result in shock or electrocution)
- Gas pipes (may result in fire or explosion)
- Telephone-line ground or lightning rod (may be dangerous in the event of lightning)

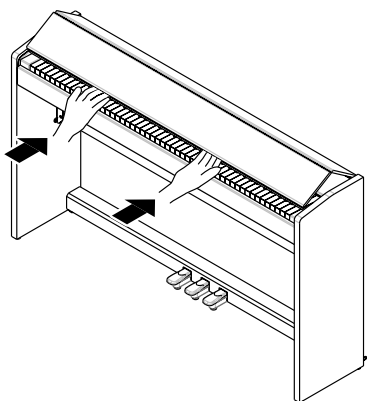
Opening and Closing the Lid

NOTE

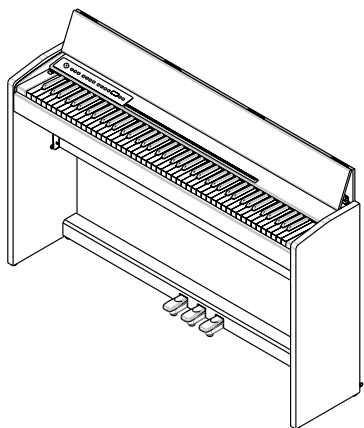
Always use two hands to open and close the lid. The F-110's lid will close abruptly after it has been opened only slightly or when it is pushed open. Take care not to allow your fingers to become pinched by the lid.

Opening the Lid

1. Grasp and push the lid towards the rear of the F-110 with both hands.

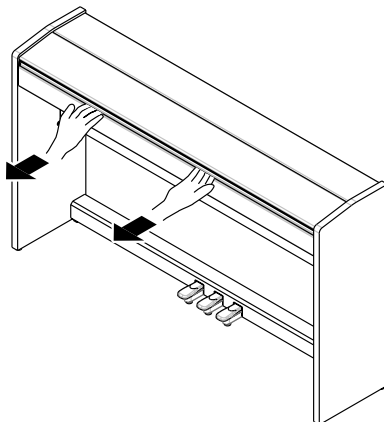


2. Push the lid until it is in the upright position (see the illustration).



Closing the Lid

1. Grasp and gently lower the lid with both hands.



NOTE

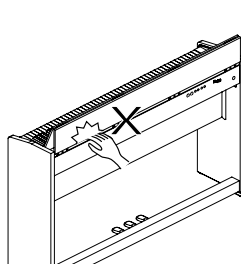
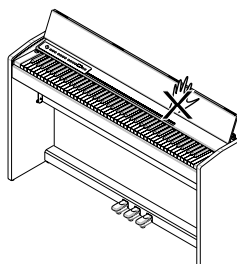
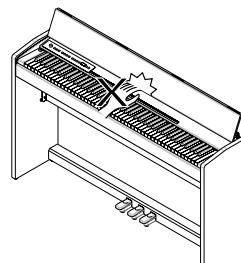
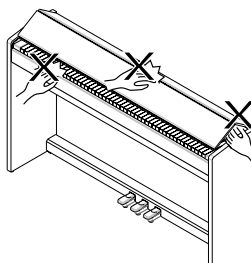
Adult supervision is recommended whenever small children use the unit.

NOTE

If you need to move the piano, make sure the lid is closed first to prevent accidents. In addition, do not hold onto the lid when moving or setting up the instrument.

NOTE

When opening or closing the lid, take care not to pinch your fingers between the folding sections. It is dangerous to close the lid by pressing it from above, since you risk pinching your fingers between the sections of the lid. Opening the lid by pushing it may cause the F-110 to fall over. You must grasp the edge of the lid when opening or closing it.



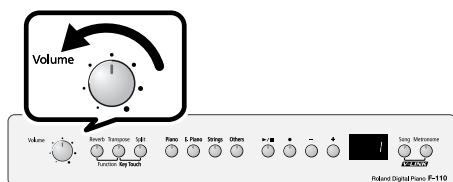
Turning the Power On/Off

NOTE

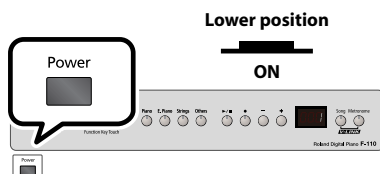
Once the connections have been completed (p. 19), turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

Turning the Power On

1. Turn the [Volume] knob all the way toward the left to minimize the volume.



2. Press the [Power] switch.



The power will turn on, and the [Piano] and [Reverb] buttons will light.

After a brief interval, you'll be able to produce sounds by playing the keyboard.

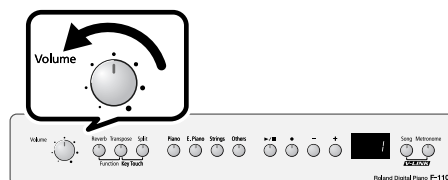
NOTE

This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

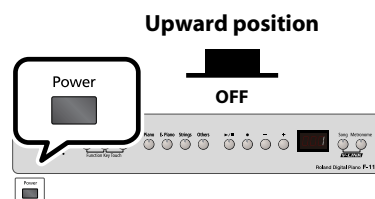
3. Use the [Volume] knob to adjust the volume.

Turning the Power Off

1. Turn the [Volume] knob all the way toward the left to minimize the volume.



2. Press the [Power] switch.



The screen goes blank and the power is turned off.

Adjusting the Sound's Volume

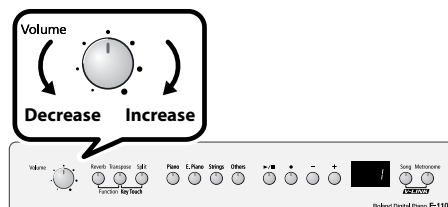
Here's how to adjust the volume of your keyboard playing or the playback volume of an internal song.

If headphones are connected, use the [VOLUME] knob to adjust the headphone volume.

1. Turn the [VOLUME] knob to adjust the overall volume.

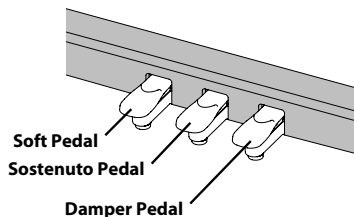
Adjust the volume while you play the keyboard to produce sound.

Turning the knob toward the right will increase the volume, and turning it toward the left will decrease the volume.



About the Pedals

The pedals perform the following operations. You'll use them mainly when playing piano.



Damper Pedal (right pedal)

Use this pedal to sustain the sound.

While this pedal is held down, notes will be sustained for an extended time even if you release your fingers from the keyboard.

The length of the sustain will change subtly depending on how deeply you press the pedal.

On an acoustic piano, holding down the damper pedal will cause the strings for notes other than the ones you actually play to vibrate in sympathy with what you've played, producing a rich resonance. The F-110 simulates this sympathetic vibration (damper resonance).

MEMO

You can modify the sound of the sympathetic vibration. Refer to p. 54.

Sostenuto Pedal (center pedal)

This pedal sustains only the notes of the keys that were already pressed when you pressed the pedal.

Soft Pedal (left pedal)

This pedal is used to make the sound softer.

Playing with the soft pedal depressed produces a sound that is not as strong as when otherwise played with the equivalent strength. This is the same function as the left pedal of an acoustic piano.

The softness of the tone can be varied subtly by the depth to which you press the pedal.

MEMO

You can switch the function of the sostenuto pedal and the soft pedal. Refer to "Changing How the Pedals Work (Center/Left Pedal Function)" (p. 51).

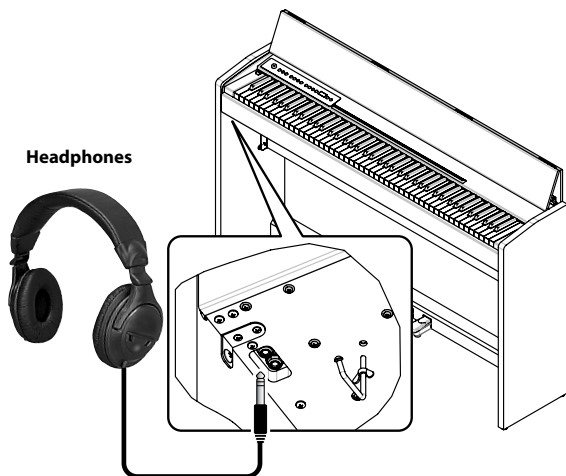
NOTE

If you disconnect the pedal cable from the F-110 while the power is turned on, the pedal effect will remain applied. You must connect or disconnect the pedal cable while the F-110's power is switched off.

Listening through Headphones

You can use headphones to enjoy the F-110 without disturbing those around you, such as at night. Since the F-110 has two headphone jacks, two people can also use headphones simultaneously.

If you're using only one set of headphones, you may connect them to either of the two headphone jacks.



1. **Plug the headphones into the headphones jack located at the left of the F-110's bottom panel.**

If headphones are connected, no sound will be output from the F-110's speakers.

2. **Use the F-110's [VOLUME] knob (p. 21) to adjust the headphone volume.**

Cautions when Using Headphones

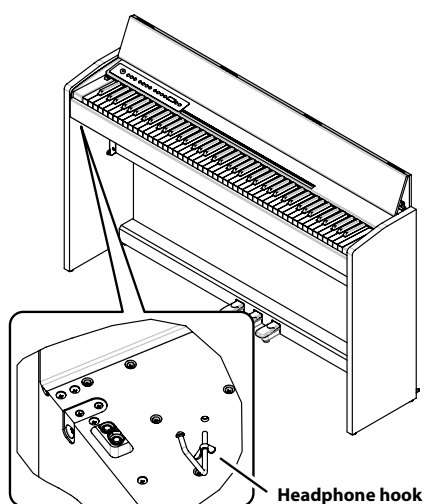
- To prevent damage to the cord's internal conductors, avoid rough handling. When using headphones, mainly try to handle either the plug or the headset.
- Your headphones may be damaged if the volume of a device is already turned up when you plug them in. Minimize the volume before you plug in the headphones.
- Excessive input will not only damage your hearing, but may also strain the headphones. Please enjoy music at an appropriate volume.
- Use headphones that have a stereo 1/4" phone plug.

Using the Headphone Hook

Whenever you are not using the headphones, you can hang them on the headphone hook of the F-110.

Attaching the Headphone Hook

1. **Press and twist the headphone hook included with the F-110 into the hole in the bottom left of the F-110 (refer to the figure below).**
2. **Turn the headphone hook wing nut to secure the headphone hook.**



NOTE

Do not hang anything other than headphones on the headphone hook. Doing so may damage the instrument or the hook.

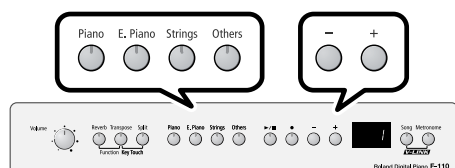
Performing

Performing with a Variety of Sounds

The F-110 features over 300 different internal sounds, allowing you to enjoy performing with sounds suitable for many different types of music.

These onboard sounds are called “Tones.” The Tones are divided into 4 different groups, each of which is assigned to a different Tone button.

The Tone “Grand Piano 1” is selected when the instrument’s power is turned on.



1. Press a Tone button to select a tone group.

You’ll hear the Tone assigned to Tone number 1 in the selected Tone Group. Play a few notes on the keyboard.

The display will indicate the number of the currently selected tone.



2. Use the [-] [+] buttons to select a sound from the tone group.

The Tone you’ve selected is heard when you finger the keyboard.

The next time you select this Tone button, you’ll hear the tone you selected here.



MEMO

If you don’t perform any operation for a while, the indication in the display will change to the following.



MEMO

About the Tone, refer to “Tone List” (p. 69).

NOTE

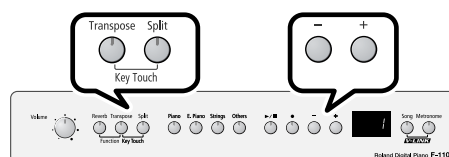
For some sounds, there are keys that do not produce sound.

Disabling the panel buttons

By using the Panel Lock function you can disable all of the buttons. This allows you to prevent unintended changes in the settings during a performance. For details, refer to “Disabling the Buttons (Panel Lock)” (p. 61).

Adjusting the Keyboard Sensitivity (Key Touch)

You can change the touch sensitivity, or response of the keys. You can adjust the keyboard touch as appropriate for the playing strength of the person who is performing.



1. Hold down the [Transpose] button and press the [Split] button.

The display now shows the current Key Touch setting.

2. Keep holding [Transpose] and [Split] and press the [-] or [+] button to select the keyboard touch.



Message	Description
 Fixed	The sound plays at one set volume, regardless of the force used to play the keys.
 Super Light	This setting produces the lightest keyboard touch.
 Light	You can achieve fortissimo (ff) play with a less forceful touch than “medium,” so the keyboard feels lighter. This setting makes it easy to play, even for children.

Message	Description
Medium	This sets the standard keyboard touch. You can play with the most natural touch. This is the closest to the touch of an acoustic piano.
Heavy	You have to finger the keyboard more forcefully than “medium” in order to play fortissimo (ff), so the keyboard touch feels heavier. Dynamic fingering adds even more feeling to what you play.
Super Heavy	This setting produces the heaviest keyboard touch.

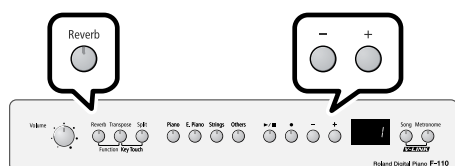
3. Release the [Transpose] and [Shift] buttons.

MEMO

You can use the Memory Backup function to store this setting in internal memory (p. 59).

Adding Reverberation to Sounds (Reverb Effect)

You can apply a reverb effect to the notes you play on the keyboard. With the reverb effect, you obtain a pleasant reverberation, making it sound as if you were performing in a concert hall or similar space.



1. Press the [Reverb] button so it's lit.

(If you haven't pressed this button since switching on the F-110, its indicator will already be lit, so there is no need to press it.)

Play a few notes on the keyboard. The reverb effect is applied to the entire tone.

Turning Off the Reverb Effect

1. Press the [Reverb] button so its light is turned off.

NOTE

Reverb will not be applied if Twin Piano is turned on with Twin Piano Mode “2” selected.

Changing the Depth of the Reverb Effect

You can select from ten levels of depth for the reverb effect.

1. Hold down the [Reverb] button and press the [-] or [+] button.

The depth for the reverb effect appears in the display.



MEMO

You can use the Memory Backup function to store this setting in internal memory (p. 59).

NOTE

You cannot make separate reverb effect depth settings for each individual tone.

The effect will be applied with the same depth to all tones.

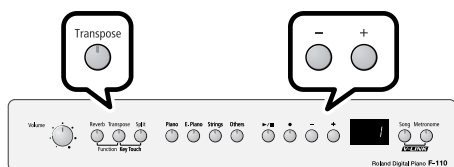
NOTE

This will not change the reverb depth for the song that is playing back.

Changing the Key of the Keyboard (Transpose)

The “Transpose” function lets you play a song at a different key. If you’re accompanying a singer, you can use the Transpose function to shift the pitch to a key that’s comfortable for the singer while you continue playing in the same familiar key (fingering).

You can also use this function to transpose the pitch of your playing without changing your fingering on the keyboard. For example, if the song is in a difficult key with numerous sharps (♯) or flats (♭), you can transpose to a key that’s easier for you to play.



On the F-110, you can transpose the pitch of just the keyboard, or the pitch of the keyboard and song together, or the pitch of just the song (Playback Transpose; p. 35) (Transpose Mode; p. 49).

When the F-110 is shipped from the factory, it is set so that the pitch of the keyboard and song will be transposed together.

1. **Hold down the [Transpose] button and press the key corresponding to the tonic of the desired key. (In this case, the note will not sound.)**

The value of the Transpose setting continues to appear in the display while the [Transpose] button is held down.



MEMO

You can also adjust this setting by holding down the [Transpose] button and using the [-] [+] buttons.

The available range is -6–0–5 (semitone steps).

If this is set to a value other than 0, the [Transpose] button will light. If the transpose value is not “0,” you can use the [Transpose] button to turn the Transpose function on/off.

When you release the [Transpose] button, you return to the previous screen.

MEMO

By holding down the [Transpose] button and pressing both the [-] and [+] buttons simultaneously, the setting can be returned to its original value (0).

NOTE

If the Transpose mode is set to transpose only the song playback (“Sng”), the notes of the keyboard will not be transposed.

NOTE

Note that when using the keyboard to change the transposition value, the setting could be incorrect if you’ve pressed a multiple number of keys. To see if you’ve specified the correct transposition value, release the [Transpose] button, then press it again.

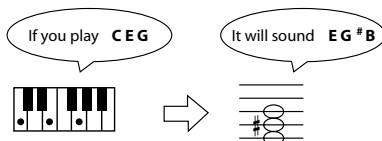
NOTE

The transposition value reverts to “0” when you turn off the power or select another song.

Example: Playing a Song in the Key of E Major After Transposition to C Major

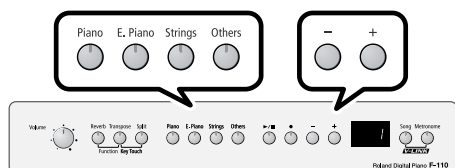
Hold down the [Transpose] button and press the E key (since E is the tonic).

Counting from C as a reference point, one moves up four keys, including the black keys, to reach E, thus “4” appears in the display.



Performing with Two Layered Tones (Dual Play)

You can play two different sounds from a single key at the same time. This method of performance is called “Dual Play.” As an example, let’s try layering piano and strings sounds.



1. Hold down the [Piano] button and press the [Strings] button.

The indicators for both buttons light.

Play a few notes on the keyboard. Both the piano and strings sounds play.

Pressing two Tone buttons at the same time in this manner activates Dual Play.

Of the two selected tones, the one for the tone button at left is called “Tone 1” and the one for the button at right is called “Tone 2.”

NOTE

You can’t select Dual Play if you’ve turned on Split Performance or Twin Piano.

NOTE

See p. 48 for how to set the balance between the two sounds you select.

Turning Off Dual Play

1. Press any one of the Tone buttons.

Now you’ll hear only the tone of the button you pressed.

MEMO

You can change the pitch of Tone 2 an octave at a time. Refer to “Changing the Pitch in Octave Steps (Octave Shift)” (p. 49).

MEMO

If you press the damper pedal while using Dual Performance, the effect will be applied to both Tone 1 and Tone 2. However, you can change this setting so that the damper pedal will affect only one of the tones. Refer to “Changing How the Damper Pedal is Applied (Damper Pedal Part)” (p. 51).

NOTE

Depending on the combination of the two tones, the effect may not be applied to Tone 2.

Changing the Tone Variations

Changing Tone 1

1. Press the [-] or [+] button.

Changing Tone 2

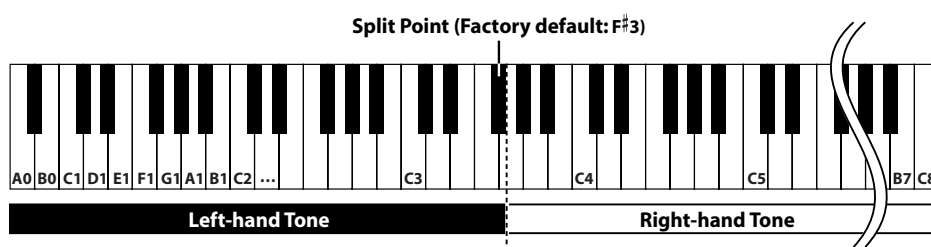
1. Hold down the Tone button for Tone 2 (the rightmost of the lit Tone buttons), and press the [-] or [+] button.

Performing with Different Tones in the Left and Right Sides of the Keyboard (Split Play)

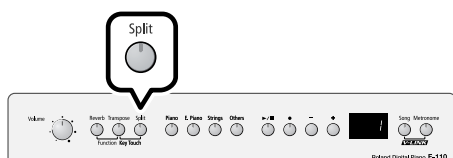
Performing with the keyboard divided at a certain key into a left side and a right side is called “Split Play,” and the point at which the keyboard is divided is called the “split point.” In Split Play, you can have a different tone sound in the left and right sides.

At the factory settings the split point is set to “F # 3.” The split point key is included in the left side.

While in Split Play, a sound played in the right side is called a “right-hand tone,” and the sound played in the left side is called a “left-hand tone.”



As an example, here’s how to play the tone of the [Piano] button as part of a Split performance.



1. Press the [Piano] button.

Now, the piano tone is selected.

2. Press the [Split] button, getting its indicator to light.

The keyboard will be divided into left and right sides.

The F # 3 key forms the division between the left and right sides of the keyboard.

The right-hand section of the keyboard plays the piano tone, and the left-hand section plays the “A. Bass+Cymbal” tone.

Turning Off Split Play

1. Press the [Split] button so its illumination is turned off.

The right-hand tone becomes the tone for the entire keyboard.

MEMO

When you switch from Dual Play (p. 27) to Split Play, the Tone 1 used in Dual Play is selected as the right-hand tone for Split Play.

Switching Tone Groups and Tone Variations

Changing the Right-hand Tone

1. Press the Tone button to choose a tone group.
2. Press the [-] or [+] button to select a variation tone.

Changing the Left-hand Tone

1. Hold down the [Split] button and press the Tone button to choose a tone group.
2. Hold down the [Split] button and press the [-] or [+] button to select a variation tone.

MEMO

You can change the pitch of the left-hand tone an octave at a time. Refer to “Changing the Pitch in Octave Steps (Octave Shift)” (p. 49).

Changing the Keyboard's Split Point

You can change the split point (the key at which the keyboard is divided).

The split point can be set to any value from B1 through B6. This is set to "F# 3" at the factory settings.

1. Hold down the [Split] button and press the key you wish to set as the split point.

The key you pressed becomes the split point, and appears in the display.



The key being used as the split point belongs to the left-hand section of the keyboard.

The previous display will reappear when you release the key.

MEMO

You can use the Memory Backup function to store this setting in internal memory (p. 59).

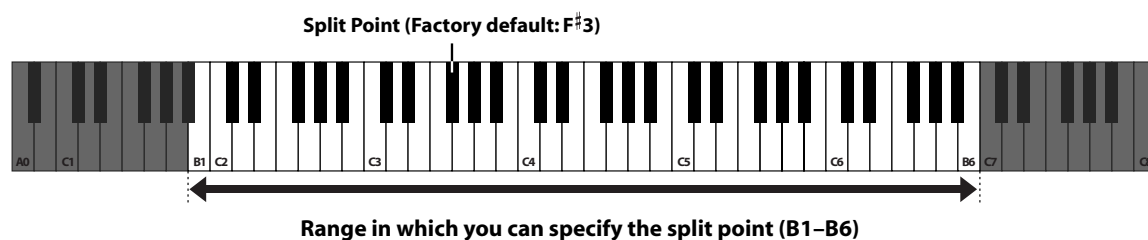
How the Split Point Is Shown

When indicating the key that is the Split Point, the display shows the note name followed by a number that signifies the octave.



Note name Octave

Display	Note name	Display	Note name
C 3	C	F# 3	F#
C# 3	C#	G 3	G
D 3	D	Ab 3	A \flat
Eb 3	E \flat	A 3	A
E 3	E	Bb 3	B \flat
F 3	F	B 3	B

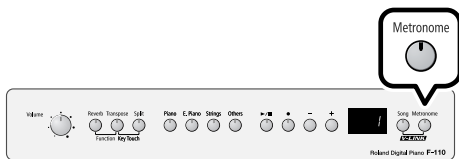


Performing with the Metronome

You can perform while the metronome sounds.

F-110 provides a versatile Metronome function. You can adjust the volume or beat of the metronome.

If a song is playing, the metronome will sound at the tempo and beat of that song.



- 1. Press the [Metronome] button so it's lit.**

The metronome will begin sounding and the currently selected tempo value will be briefly displayed.

The [Metronome] button flashes in red and green in time with the beat selected at that time.

The indicator lights in red on the downbeats, and in green on weak beats.

MEMO

If you don't perform any operation for a while, the indication in the display will change to the following.

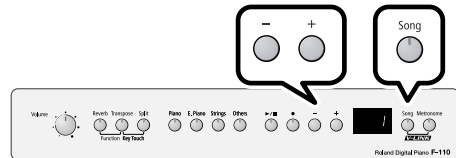


Stopping the Metronome Function

- 1. Press the [Metronome] button.**

Changing the Tempo

1. Press the [Song] button a number of times until the tempo value is displayed.







The [Song] button will light, and the display will show only a number; this is the tempo.



- 2. Press the [-] or [+] button to adjust the tempo.**

Correspondence between beat and tempo display

Beat	2/2	x/4	3/8	6/8, 9/8, 12/8
Tempo Value	 = 5-250	 = 10-500	 = 20-999	 = 7-333

Changing the Beat

1. Press the [Song] button a number of times until the beat value is displayed.

The beat value is a numeric indication with a dot (".") in the middle.



2. Press the [-] or [+] button to select the beat.

Display	Beat	Display	Beat
22	2/2	64	6/4
04	Only weak beats will be sounded.	74	7/4
24	2/4	38	3/8
34	3/4	68	6/8
44	4/4	98	9/8
54	5/4	128	12/8

MEMO

When you record your performance, it will be recorded in the beat that is selected.

MEMO

When you play back a song, the metronome's beat will be set to the beat of that song.

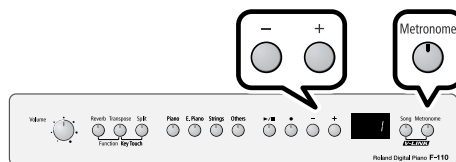
NOTE

You can't change the metronome's beat while a song is playing.

Changing the Metronome Volume

The volume of the metronome can be adjusted, with 11 volume levels available.

This will be set to "5" when you turn on the power.



1. While holding down the [Metronome] button, press the [-] or [+] button.

The display will indicate the metronome volume.



MEMO

When the metronome volume is set to "0," the metronome sound won't be heard.

Sounding a Count to Keep Your Timing Accurate

A "count-in" is a count that is sounded before the song begins to play.

If you're playing along with a song, you can sound a count to make it easier to synchronize your own playing with the song.

1. Press the [▶/■] button while the metronome is sounding.

A two-measure count sounds before the song plays.

MEMO

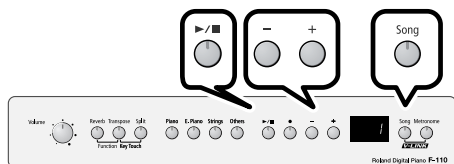
A "count-down" is a count that is sounded at the end of the song's introduction (before you begin playing the keyboard, see p. 55).

Playing Back Songs

Listening to Songs

Here's how to listen to the internal preset songs.

The F-110 provides sixty-five piano songs as internal preset songs.



Selecting a Song

1. Press the [Song] button a number of times until the indication "USr" (or a number preceded by a "P" or "U") is displayed.
2. Press the [-] or [+] button to select the song.



Playing the Song

3. Press the [▶/■] button.

The selected song is played to the end, and then playback stops.

To stop playback before the end, press the [▶/■] button once more.

The next time you press the [▶/■] button, playback will resume from the point at which you stopped.

Fast-forward and Rewind

- Press the [+] button to move to the beginning of the next song.
- Press the [-] button to move to the beginning of the currently selected song. If you're already at the beginning of the song, you will move to the beginning of the preceding song.
- If you hold down the [+] button while a song is playing, the song will fast-forward. When you press this button, the measure number will be displayed for several seconds.
- If you hold down the [-] button while a song is playing, the song will rewind.

When the following appears in the display

If you have recorded a song but have not yet saved it, "dEL" will appear, blinking, when you select a song.

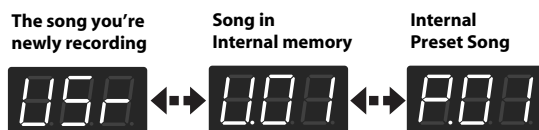


You cannot play back another song if memory still contains an unsaved song.

If you want to delete your performance and play back the song, press the [●] button. If you don't want to delete your performance, press the [▶/■] button. If you want to save your recorded performance, refer to "Saving Songs" (p. 41).

About the Song Select Screen

The song select screen will change as follows each time you press the [-] or [+] button.



Song numbers starting with "P" are internal songs (p. 75).

Song numbers starting with "U" are songs saved in the F-110's internal memory.

NOTE

Indications such as "U.***" will not appear if no songs are saved in internal memory.

MEMO

See "Internal Song List" (p. 75) for the names of the internal songs.

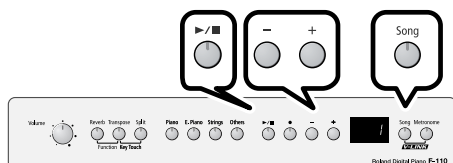
MEMO

If you don't perform any operation for a while, the indication in the display will change as follows.



Playing Back All Songs Continuously (All Song Play)

Here's how to repeatedly play all internal songs in succession.



1. Press the [Song] button a number of times until the indication "USr" (or a number preceded by a "P" or "U") is displayed.
2. Use the [-] [+] buttons to select the song and memory area ("P" or "U") where you want playback to start.
3. While holding down the [Song] button, press the [▶/■] button.

The display will indicate "ALL," and the songs will play consecutively, starting with the selected song.

When the last song finishes playing, playback will return to the first song and then continue.



MEMO

The songs in the selected memory area will play consecutively.

4. To stop playback, press the [▶/■] button so its indicator is turned off.

MEMO

After you've pressed the [▶/■] button to stop playback, pressing the [▶/■] button once again will resume playback from the location where you stopped, but the next song will not play back. If you want to play back all songs once again, hold down the [Song] button and press the [▶/■] button.

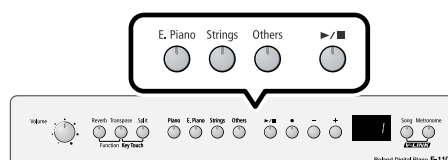
MEMO

See "Internal Song List" (p. 75) for the names of the internal songs.

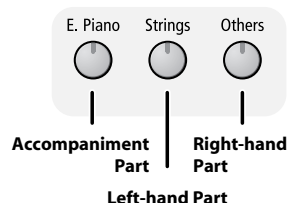
Listening to Each Part Separately

When playing back internal preset songs or songs from internal memory, you can select the performance parts that will play.

You can also practice each hand separately while playing along with the song.



The performance data is assigned to the Track buttons as shown below.



The left-hand performance is assigned to the [Strings] button, the right-hand performance is assigned to the [Others] button, and other performance is assigned to the [E. Piano] button. "Tracks" are areas in which music data is held.

1. Select the song that you want to play (p. 32).
2. Press the [▶/■] button to play the song.
3. Keep holding the [▶/■] button and select the part that you don't want to play back.

Press the [E. Piano], [Strings] or [Others] button.

The button you pressed will go out, and the assigned part (see above) will no longer be heard.

MEMO

If you want to practice the right-hand part, hold down the [▶/■] button and press [Others] to turn it off. When you play back the song, the right-hand part will not play.

MEMO

You can select the part that will be muted when you press the [E. Piano] button and turn off its light. Please refer to p. 56.

MEMO

If you mute the accompaniment part before initiating playback, you can skip the intro.

NOTE

Mute settings will be cleared when you switch songs.

Changing the Song Playback Volume

Here's how to change the volume at which the song will play. When you're practicing along with a song, this allows you to adjust the volume balance between your keyboard performance and the song playback.

1. While holding down the [▶/■] button, press the [-] [+] buttons.

The song playback volume is displayed while you hold down the [▶/■] button.

The playback volume can be set to any value from 0 to 127.



NOTE

When you turn off the power, the song playback volume will revert to "127."

Changing the Tempo of a Song

You can change the tempo at which the song plays. When you're practicing one of the internal songs, slowing down the tempo of the playback can make it easier to play along with a difficult song.

1. Press the [Song] button a number of times until the tempo value is displayed.

The [Song] button will light, and the display will show only a number; this is the tempo.



2. Use the [-] [+] buttons to change the tempo.

Playing Back at a Fixed Tempo (Tempo Mute)

Some of the internal preset songs have a tempo that varies during the song. Here's how you can make these songs play back at a fixed, unchanging tempo.

1. Press the [Song] button a number of times until the tempo value is displayed.

The [Song] button will light, and the display will show only a number; this is the tempo.

2. Keep holding down the [Song] button and use the [-] [+] buttons to change the setting.

Button	Display	Explanation
[+]	Dot	The tempo changes recorded in the song will be ignored, and the song will play at a fixed tempo.
[-]	No dot	The song will play back according to the tempo changes recorded in the song.



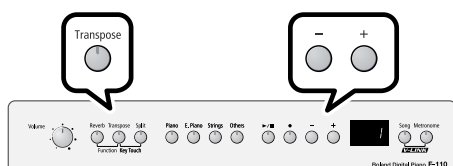
Lit if Tempo Mute is enabled

NOTE

When you switch songs, the Tempo Mute function will revert to the "off" setting.

Changing the Key of Song Playback (Playback Transpose)

The “Playback Transpose” function lets you change the key of the song playback.



1. **Play back the song that you want to hear or play along with (p. 32).**
2. **While holding down the [Transpose] button, use the [-] [+] buttons to adjust the pitch.**

The pitch of the song will change in semitone steps.

The Playback Transpose setting is shown while you hold down the [Transpose] button.

The range is -6–0–5 (semitone steps). If this is set to a value other than 0, the [Transpose] button will light.

You can also select the transposition interval by pressing and holding the [Transpose] button while pressing the desired key on the F-110's keyboard.

If the transpose value is anything other than “0,” you can use the [Transpose] button to turn the Playback Transpose function on/off.

MEMO

If you hold down the [Transpose] button and press both the [-] and [+] buttons simultaneously, this setting will return to its original value (0).

NOTE

The Playback Transpose function won't be applied if the Transpose Mode (p. 49) is set to “Kbd” (Keyboard).

MEMO

The transpose setting will return to “0” when you select another song.

Recording

You can easily record your performances.

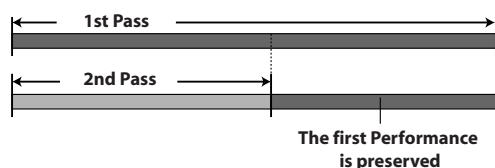
You can play back a performance you have recorded to check what and how you played, and play melodies on the keyboard along with prerecorded accompaniment.

You can perform the following types of recording.

- **Recording just your own keyboard performance:** p. 36
- **Selecting a track button and recording:** p. 37
- **Re-recording:** p. 37
- **Recording along with an internal song:** p. 39

MEMO

With second or later recordings, the previously recorded song is erased as the new material is recorded. When recording a new performance, it is probably a good idea to erase the previously recorded performance first (p. 40).



When the following appears in the display

If you have recorded a song but have not yet saved it, "dEL" will appear, blinking, when you select another song.



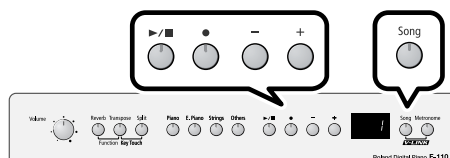
You cannot record another song or carry out playback if memory contains an unsaved song.

If it is OK to delete the song, press the [●] button.

If you don't want to delete the song, press the [▶/■] button and save your song to internal memory.

Recording Your Keyboard Performance

Here's how to record just your own keyboard performance without using an internal song.



Performance Settings

1. **Press the [Song] button a number of times until the indication "USr" (or a number preceded by a "P" or "U") is displayed.**

If the display shows something like "P.01," "U.01" (or any other value after the "P" or "U."), press the [-] button until the following indication appears.



MEMO

Alternatively, you can get "USr" to be displayed by holding down the [Song] button and pressing the [●] button.

2. **Select the Tone to be played (p. 24).**

3. **If necessary, sound the metronome.**

Press the [Metronome] button (p. 30).

While listening to the metronome, adjust the song tempo and the time signature as desired (p. 30).

Settings for Recording

4. **Press the [●] button.**

The [●] button lights, the [▶/■] button begins flashing, and the F-110 is put into recording standby mode.

If you decide not to record, press the [●] button once again.

Starting Recording

5. Press the [▶/■] button or play the keyboard.

After two measures of count sound, recording begins. Recording starts when you start playing the keyboard (without pressing the [▶/■] button). In this case, a count is not sounded.

When recording begins, the [●] button and [▶/■] button will light.

MEMO

During the count-in, the measure is indicated in the display as “-2” then “-1.”

Stopping Recording

6. Press the [▶/■] button.

Recording will stop. You can also press the [●] button to stop recording.

Listening to the Recorded Performance

7. If the indication “Usr.” is not displayed, press the [Song] button repeatedly until it appears.

8. Press the [-] button.

You will return to the beginning of the performance you recorded.

9. Press the [▶/■] button.

The recorded performance will play back.

MEMO

If you press the [▶/■] button while the metronome is sounding, there will be a two-measure count (“count-in”) before playback begins.

10. Press the [▶/■] button once again to stop playback.

NOTE

The recorded performance will disappear when you turn off the power. If you want to keep the performance you recorded, you must save it in internal memory. Refer to p. 41.

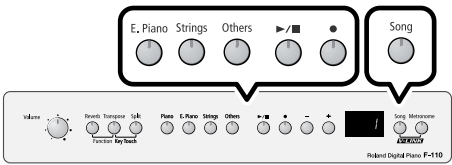
NOTE

If you have not saved the performance you recorded, you won’t be able to play back another song. You’ll have to erase (p. 40) or save (p. 41) the performance before playing back another song.

Recording Your Performance Separately for Each Hand

The F-110’s recorder has three tracks. You can record the performance of each hand separately to different track buttons (for example, the left-hand performance to the [Strings] button and the right-hand performance to the [Others] button), or you can re-record just a specific track of a previously recorded performance.

Furthermore, you select the accompaniment track using the [E. Piano] button.



How the track buttons correspond to the recorded performances

The recorded performances are assigned to the track buttons as follows.

- Twin Piano (p. 50), Split mode (p. 28)

Button	Recorded performance	
	Twin Piano	Split performance
[Others]	Right section	Right-hand tone
[Strings]	Left section	Left-hand tone

- Normal performance (the entire keyboard plays a single tone), Dual performance (p. 27)

When you record with just one recording track specified

The performance will be recorded on the specified track.

When you record with multiple recording tracks specified

Recording will take place in this order of priority: [Others] button → [Strings] button → [E. Piano] button.

Settings for recording

1. Press the [Song] button a number of times until the indication "USr" (or a number preceded by a "P" or "U") is displayed.

If the display shows something like "P.01" or "U.01" (or any other value after the "P" or "U"), press the [-] button until the following indication appears.



MEMO

Alternatively, you can get "USr" to be displayed by holding down the [Song] button and pressing the [●] button.

2. Press the [●] button.

The [●] button will light, the [▶/■] button's indicator will flash, and the F-110 will enter recording standby mode. If you decide not to record, press the [●] button again.

3. Hold down the [●] button and press the button of the tracks you don't want to record, turning off their illumination.

While you keep holding the [●] button, the [E. Piano], [Strings] and [Others] buttons flash if the corresponding tracks are still empty. For tracks that already contain data, the corresponding buttons light steadily.

MEMO

You can record to only one track button at a time.

Recording

4. Press the [▶/■] button.

After two measures of count sound, recording begins.

Recording starts when you start playing the keyboard (without pressing the [▶/■] button). In this case, a count is not sounded.

When recording begins, the [●] button and [▶/■] button will light.

MEMO

During the count-in, the count measure is indicated in the display as "-2" then "-1."

5. To stop recording, press the [▶/■] button.

MEMO

You can also press the [●] button to stop recording.

Recording an additional part

6. If the indication "Usr." is not displayed, press the [Song] button repeatedly until it appears.

7. Press the [-] button.

You will return to the beginning of the recorded performance.

8. Press the [●] button.

9. Hold down the [●] button and press the button of the track you want to record, making it flash.

NOTE

If you select a previously recorded track, that track will be overwritten by the newly recorded performance, and the previously recorded performance will be lost.

The [●] button will light, the [▶/■] button will flash, and the F-110 will enter recording standby mode.

If you decide not to record, press the [●] button once again.

10. Press the [▶/■] button.

After two measures of count sound, recording begins.

Recording starts when you start playing the keyboard (without pressing the [▶/■] button). In this case, a count is not sounded.

When recording begins, the [●] button and [▶/■] button will light.

MEMO

During the count-in, the count measure is indicated in the display as "-2" then "-1."

NOTE

If you record additional parts without erasing the previously recorded song, the song tempo and time signature will remain as it was when the song was first recorded.

11. To stop recording, press the [▶/■] button.

MEMO

You can also press the [●] button to stop recording.

Listening to the Recorded Performance

12. If the indication “Usr.” is not displayed, press the [Song] button repeatedly until it appears.

13. Press the [–] button.

You will return to the beginning of the recorded performance.

14. Press the [▶/■] button.

The recorded performance will play back.

15. When you press the [▶/■] button once again, playback will stop.

NOTE

The recorded performance will disappear when you turn off the power. If you want to keep the performance you recorded, you must save it in internal memory. Refer to “Saving Songs” (p. 41).

NOTE

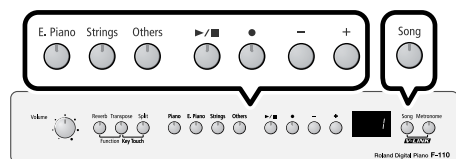
If you have not saved the performance you recorded, you won’t be able to play back another song. You’ll have to erase (p. 40) or save (p. 41) the performance before playing back another song.

Recording Your Playing Along with a Song

Here’s how you can play along with an internal memory song and record your performance.

For example, you can listen to the left-hand part while you record the right-hand part.

The performance you play on the keyboard will be recorded in place of the sound of the part you select using the track buttons.



MEMO

The sound of the track button you selected will not be heard during recording.

Performance Settings

1. Select a song.

For details on how to select a song, refer to “Playing Back Songs” (p. 32).

2. Select the Tone to be played (p. 24).

3. Specify the recording tempo (p. 34).

NOTE

The performance will be recorded at the tempo of the song you selected when recording. If you record your playing along with a song, it will be recorded with the time signature of that song.

Settings for Recording

4. Press the [●] button.

5. Hold down the [●] button and press the button of the track you want to record, making it flash.

This allows you to record while listening to the selected song.

The [●] button will light, the [▶/■] button will flash, and the F-110 will enter recording standby mode.

If you decide not to record, press the [●] button once again.

How performance parts correspond with track buttons

Button	Performance part
[E. Piano]	Performance data other than the right-hand part and left-hand part
[Strings]	Left-hand part
[Others]	Right-hand part

Starting Recording

6. Press the [▶/■] button.

After a two-measure count, recording will begin.

Even if you don’t press the [▶/■] button, recording will begin when you play the keyboard. In this case, a count won’t be sounded.

When recording begins, the [●] button and [▶/■] button will light.

MEMO

During the count, the display will indicate the measure number as “-2” and “-1.”

Stopping Recording

7. Press the [▶/■] button.

Recording will stop. You can also press the [●] button to stop recording.

Listening to the Recorded Performance

8. If the indication "Usr." is not displayed, press the [Song] button repeatedly until it appears.

9. Press the [-] button.

You will return to the beginning of the recorded performance.

10. Press the [▶/■] button.

The recorded performance will play.

11. Press the [▶/■] button once again to stop playback.

NOTE

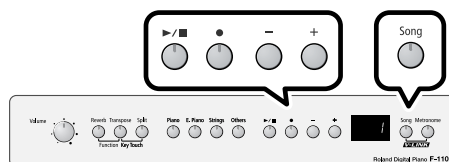
The recorded performance will disappear when you turn off the power. If you want to keep the performance you recorded, you must save it in the internal memory. Refer to "Saving Songs" (p. 41).

NOTE

If you have not saved the performance you recorded, you won't be able to play back another song. You'll have to erase (p. 40) or save (p. 41) the performance before playing back another song.

Erasing Recorded Performances

You can erase recorded performances.



1. Press the [Song] button a number of times until the indication "Usr." is displayed.



Lit if there is a recorded song that has not been saved yet.

2. Press the [+] button.

"dEL" will start blinking in the display.



If you decide not to delete the song, press the [▶/■] button.

3. Press the [●] button.

The recorded performance is erased.

MEMO

You can also erase the recorded performance by holding down the [Song] button and pressing the [●] button.

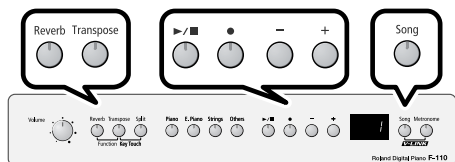
MEMO

A performance you recorded will be deleted when you turn off the power.

Saving Your Performance

Saving Songs

A song you've recorded can be saved in internal memory. The songs you record will be lost if you simply turn off the F-110's power before they've been saved. You'll need to save a song if you want to keep it.



1. **Hold down the [Reverb] button and press the [Transpose] button.**

The display will indicate "Fnc," and you'll be in Function mode.



2. **Hold down the [Song] button and use the [-] [+] buttons to make the display indicate "SAv."**

When you take your finger off the button, the following message will appear and the [▶/■] button will flash.



The number that appears in the display always refers to the first empty User memory and may differ from the one shown in the illustration.

3. **Use the [-] [+] buttons to select the save-destination number.**

If the dot in the lower right of the display is lit, a song has already been saved at that number.

Select a number at which no song has been saved. If you want to erase an unwanted song and replace it with the newly saved song, select the number of the unwanted song.



Lights if a song has been saved

Saving the Song

4. **Press the [▶/■] button.**

The display will indicate "Sur," and the [▶/■] button and [●] button will flash.



If you decide not to save the song, press the [▶/■] button.

5. **Press the [●] button.**

The song will be saved.



NOTE

Never turn off the power while "SAv" is blinking in the display.

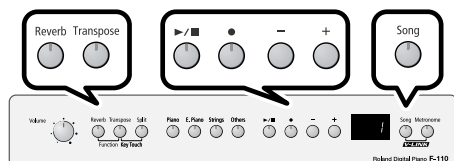
6. **Press the [Reverb] or [Transpose] button to leave Function mode.**

Deleting a Song

Here's how you can delete a previously saved song from internal memory.

MEMO

If you want to delete all songs from internal memory, refer to "Deleting All Songs" (p. 43).



1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate "Fnc," and you'll be in Function mode.



2. Hold down the [Song] button and use the [-] [+] buttons to make the display indicate "dEL."

When you take your finger off the button, the following message will appear and the [▶/■] button will flash.



The number that appears in the display always refers to the first stored User memory and may differ from the one shown in the illustration.

3. Use the [-] [+] buttons to select the song that you want to delete.

Deleting the Song

4. Press the [▶/■] button.

The display will indicate "Sur," and the [▶/■] button and [●] button will flash.



If you decide not to delete the song, press the [▶/■] button.

5. Press the [●] button.

The selected song will be deleted.



NOTE

Never turn off the power while "dEL" is blinking in the display.

NOTE

If the song you just deleted was the only one in the F-110's internal memory, the display will briefly show the "non" message.

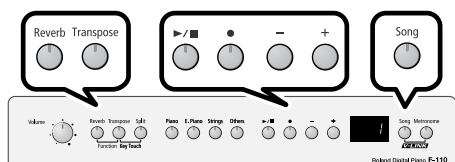
6. Press the [Reverb] or [Transpose] button to leave Function mode.

Deleting All Songs

Here's how you can completely erase all songs that were saved in internal memory.

NOTE

The procedure described here erases all songs that have been saved in memory. The erased data cannot be recovered, so we recommend that you check the contents of memory before you proceed.



1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate "Fnc," and you'll be in Function mode.



2. Hold down the [Song] button and use the [-] [+] buttons to make the display indicate "dEL."

NOTE

If the internal song memory is empty, the following steps cannot be performed.

When you take your finger off the button, a list of all songs stored in the internal memory will appear and the [▶/■] button will flash.

3. Press the [-] button a number of times until the display reads "ALL."

4. Press the [▶/■] button.

The display will indicate "Sur," and the [▶/■] button and [●] button will flash.



If you decide not to delete all songs, press the [▶/■] button.

5. Press the [●] button.



The entire contents of the internal memory will be erased and the display will show the "non" message.

NOTE

Never turn off the power while "dEL" is flashing in the display.

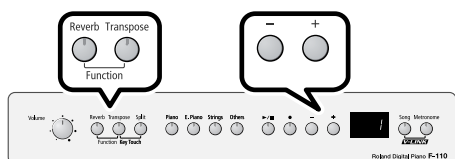
6. Press the [Reverb] or [Transpose] button to leave Function mode.

Various Settings

In Function mode you can make various settings for performance and recording.

Basic Operation in Function Mode

1. Hold down the [Reverb] button and press the [Transpose] button.



The [Reverb] button and [Transpose] button will light.
The display will indicate "Fnc" and you'll be in Function mode.




















2. Press one of the blinking buttons to select the setting you want to change.
The display shows the name of the setting while you hold down the button. The value of the setting will appear when you release the button.
3. Use the [-] [+] buttons to change the setting.
4. If you want to change a different setting, select the setting you want to change by pressing one of the buttons that were blinking before step 2.
5. Press the [Reverb] or [Transpose] button to leave Function mode.

The button indicators will return to their former state.

NOTE

The settings you change will return to their original state when you turn off the power. If you want your changes to be retained even after the power has been turned off, carry out the Memory Backup procedure (p. 59) to save the settings.

Button	Function	Page
[Split] (& [-] [+])	Dual Balance 	p. 48
	Octave Shift 	p. 49
[Piano] (& [-] [+])	Twin Piano Mode 	p. 50
	Master Tuning 	p. 52
	Temperament 	p. 52
	Tonic 	p. 53
	Stretched Tuning 	p. 53
	Damper Resonance 	p. 54
	String Resonance 	p. 54
	Key Off Resonance 	p. 54
[E. Piano] (& [-] [+])	3D Sound Control 	p. 45
	3D Mode 	p. 46
	Dynamics Sound Control 	p. 47
	EQ Low 	p. 46
	EQ Medium 	p. 46
	EQ High 	p. 46
	Master Gain 	p. 47

Button	Function	Page
[Strings] (& [-] [+])	Damper Pedal Part 	p. 51
	Center Pedal Function 	p. 51
	Left Pedal Function 	p. 51
[Others] (& [-] [+])	Memory Backup 	p. 59
	Local Control 	p. 57
	MIDI Transmit Channel 	p. 58
	Composer MIDI Out 	p. 58
	V-LINK Channel 	p. 59
	Recommended Tone 	p. 56
	Factory Reset 	p. 60
[Song] (& [-] [+])	Save a Song 	p. 41
	Deleting songs 	p. 42, p. 43
	Transpose Mode 	p. 49
	Accomp Track 	p. 56
[Metronome] (& [-] [+])	Countdown 	p. 55
	Countdown Part 	p. 55
[Reverb] + [Metronome]	Panel Lock 	p. 61

Sound-related Settings

Adding Spatial Depth to the Sound (3D Sound Control)

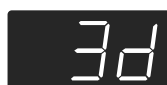
The F-110 provides a “3D Sound Control” function. This function adds the natural resonance and spaciousness that are characteristic of a grand piano.

1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate “Fnc,” and you’ll be in Function mode. The [Split], [Piano], [E. Piano], [Strings], [Others], [Song] and [Metronome] buttons flash.



2. Hold down the [E. Piano] button and use the [-] [+] buttons to make the display indicate “3D.”



When you take your finger off the button, a screen in which you can select the desired setting appears.

3. Use the [-] [+] buttons to adjust the spatial depth of the sound.

You can adjust the spatial depth over four levels.

Increasing the value will increase the spatial depth of the sound.



MEMO

You can use the Memory Backup function to store this setting in internal memory (p. 59).

MEMO

You can change the way in which the 3D Sound Control function is applied (p. 46).

NOTE

3D Sound Control does not affect the sound from the Input jack or the sound of external devices connected to the MIDI Out connector.

NOTE

When you turn Twin Piano on (by selecting “1” or “2,” see p. 50), 3D Sound Control will be turned off.

4. Press the [Reverb] or [Transpose] button to leave Function mode.

Turning off 3D Sound Control

1. Repeat steps (1)–(3) above, but select “OFF” this time.
2. Press the [Reverb] or [Transpose] button to leave Function mode.

Changing how 3D Sound Control is Applied (3D Mode)

This specifies how 3D Sound Control (p. 45) is to be applied.

1. Hold down the [Reverb] button and press the [Transpose] button.
- The display will indicate “Fnc” and you’ll be in Function mode.
2. Press and hold the [E. Piano] button and use the [–] or [+] button to select “3dM.”
3. Release the [E. Piano] button to see the current setting.
4. Use the [–] [+] buttons to change the setting.

Setting	Explanation
Auto	When headphones are connected, the 3D effect is optimized for headphones, and when no headphones are connected, the optimal effect for speakers is applied.
Speaker	The 3D effect is optimized for speakers, regardless of whether or not headphones are connected. 3D Sound Control is also applied to the sound output from the Output connectors, making this convenient when you want to play through speakers connected to the Output connectors.
Headphones	The optimal effect for headphones is used, regardless of whether or not headphones are connected.

5. Press the [Reverb] or [Transpose] button to leave Function mode.

Changing the F-110’s Frequency Response (Equalizer)

If required, you can increase or decrease the level of the bass, medium and high frequencies over a range of –12 through +12dB.

1. Hold down the [Reverb] button and press the [Transpose] button.
- The display will indicate “Fnc” and you’ll be in Function mode.
2. Press and hold the [E. Piano] button and use the [–] or [+] button to select one of the following options:

Setting	Explanation
EQ L	Level of the low frequencies (bass).
EQ M	Level of the middle frequencies.
EQ H	Level of the high frequencies (treble).

3. Release the [E. Piano] button to see the current setting.
4. Use the [–] [+] buttons to change the setting.
- You can select a value between “–12” and “12” dB. Negative values decrease the level of the frequency band in question, while positive values boost it.
5. Press the [Reverb] or [Transpose] button to leave Function mode.

Adjusting the Volume (Master Gain)

This parameter allows you to compensate for a markedly reduced or increased level as a result of the EQ settings you are using. There is probably no need to change this value if you do not change the "EqL," "EqM" and "EqH" settings.

Also, if you are playing the F-110 through a connected external system, there may be cases in which the volume from your external system is too low even when the F-110's volume is turned to the maximum setting. In such cases, you can adjust the master gain setting as follows.

Adjusting the master gain will also affect the volume of the internal speakers and headphones.

NOTE

The sound may distort if you increase the volume excessively.

1. **Hold down the [Reverb] button and press the [Transpose] button.**

The display will indicate "Fnc" and you'll be in Function mode.

2. **Press and hold the [E. Piano] button and use the [-] or [+] button to select "MAS."**

3. **Release the [E. Piano] button to see the current setting.**

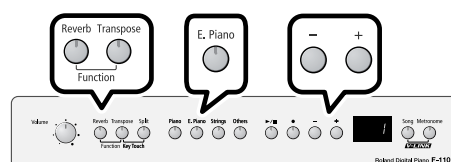
4. **Use the [-] [+] buttons to change the setting.**

Setting	Explanation
-10-0-10	This adjusts the F-110's level. Negative values reduce it, while positive value increase it. Always set this parameter in such a way as to avoid distortion.

5. **Press the [Reverb] or [Transpose] button to leave Function mode.**

Adding Liveliness to the Sound (Dynamics Sound Control)

You can add liveliness to the sound to give it superb clarity and distinctness.



1. **Hold down the [Reverb] button and press the [Transpose] button.**

The display will indicate "Fnc," and you'll be in Function mode.



2. **Hold down the [E. Piano] button and use the [-] [+] buttons to make the display indicate "dYn."**



When you take your finger off the button, the display will show the type of dynamics sound control.



3. **Use the [-] [+] buttons to select the desired sound control setting.**

Setting	Explanation
OFF	Dynamics sound control is turned off.
1 (Sharp)	Creates a sound with boosted bass and treble.
2 (Clear)	Produces a sound with chords in the low registers that are clear and distinct.
3 (Power)	Creates a sound with boosted bass.

4. **Press the [Reverb] or [Transpose] button to leave Function mode.**

You will return to the normal screen.

MEMO

You can use the Memory Backup function to store this setting in internal memory (p. 59).

NOTE

For some sounds, this may cause distortion.

NOTE

Dynamics Sound Control does not affect the sound from the Input jack or the sound of external devices connected to the MIDI Out connector.

Keyboard Settings

Changing the Volume Balance for Dual Play (Dual Balance)

You can change the volume balance of Tones 1 and 2.

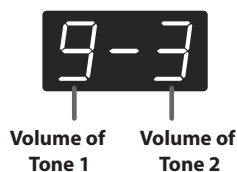
1. **Hold down the [Reverb] button and press the [Transpose] button.**

The display will indicate "Fnc" and you'll be in Function mode.

2. **Press and hold the [Split] button and use the [-] or [+] button to select "dbL."**

3. **Release the [Split] button to see the current setting.**

The current volume balance is shown.



4. **Use the [-] [+] buttons to change the setting.**

The volume balance will change.

If you want to return to the original volume balance, press the [-] and [+] buttons simultaneously.

MEMO

You can use the Memory Backup function to store this setting in internal memory (p. 59).




5. **Press the [Reverb] or [Transpose] button to leave Function mode.**

Specifying what the Transpose Function will Affect (Transpose Mode)

This setting specifies what the transpose function will affect. You can use the transpose function to change the pitch of both the song and the keyboard, the pitch of only the song, or the pitch of only the keyboard.

→ Transpose (p. 26), Playback Transpose (p. 35)

- Hold down the [Reverb] button and press the [Transpose] button.**
The display will indicate "Fnc" and you'll be in Function mode.
- Press and hold the [Song] button and use the [-] or [+] button to select "trS."**
- Release the [Song] button to see the current setting.**
- Use the [-] [+] buttons to change the setting.**

Setting	Explanation
	Keyboard notes
	Song playback
	Keyboard notes and song playback

- Press the [Reverb] or [Transpose] button to leave Function mode.**

Changing the Pitch in Octave Steps (Octave Shift)

You can change the pitch of Tone 2 in Dual Play (p. 27) and the Left-hand tone in Split Play (p. 28) an octave at a time. Altering the pitch in one-octave units in this way is called "Octave Shift."

For example, you can raise the pitch of the Left-hand Tone to the same pitch as the Right-hand Tone in Split Play.

- Hold down the [Reverb] button and press the [Transpose] button.**
The display will indicate "Fnc" and you'll be in Function mode.
- Press and hold the [Split] button and use the [-] or [+] button to select "Oct."**
- Release the [Split] button to see the current setting.**
- Use the [-] [+] buttons to change the setting.**

Indication
-2-0-2

The range of available pitch change spans from two octaves higher to two octaves lower.

The pitch is lowered one octave each time the [-] button is pressed, while each press of the [+] button raises the pitch by one octave.

To return to the original pitch, press the [-] and [+] buttons simultaneously.

- Press the [Reverb] or [Transpose] button to leave Function mode.**

Dividing the Keyboard for Two-person Performance (Twin Piano)

You can divide the keyboard into left and right sections so that two people can play the same range of pitches. This means that you'll be able to use the keyboard as though it were two separate pianos. For example, this provides a convenient way for one person to follow along with another person's performance to check it. See the illustration at the bottom of this page.

- When you turn Twin Piano on (by selecting "1" or "2"), the instrument will be in the following state.
- The keyboard will be divided into left and right sections, with "middle C" located in the center of each section.
 - The left and right sections will have the same sound (Grand Piano 1).
 - The right pedal will be the damper pedal for the right section, and the left pedal will be the damper pedal for the left section.
 - If the Split function or the Dual function was on when you turned Twin Piano on, the Split function and the Dual function will be turned off.
 - 3D Sound Control and the effect will be off.

MEMO You can also decide to assign the left section only to the left speaker and the right half only to the right speaker, when set Twin Piano mode to "2."

1. **Hold down the [Reverb] button and press the [Transpose] button.**
The display will indicate "Fnc" and you'll be in Function mode.
2. **Press and hold the [Piano] button and use the [-] or [+] button to select "tPn."**
3. **Release the [Piano] button to see the current setting.**

4. Use the [-] [+] buttons to change the setting.

You can choose one of the following ways in which the sound will be heard.

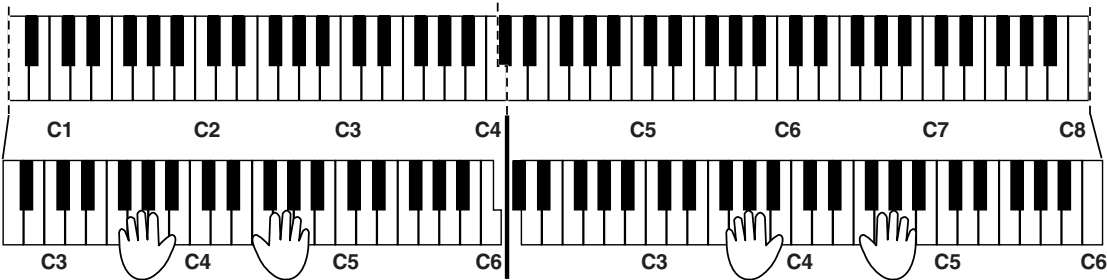
Setting	Explanation
OFF	Twin Piano mode is off.
1	The keyboard is split into two identical sections. As usual, the sound will be heard from the right as you play toward the right of the keyboard, and from the left as you play toward the left.
2	The keyboard is split into two identical sections. Notes played in the right section will be heard from the right speaker, and notes played in the left section will be heard from the left speaker.

NOTE If you set this parameter to "2," reverb will no longer be applied.

NOTE For some sounds, the sound may not be split even if you set Twin Piano mode to "2."

MEMO This setting is not remembered when you switch off the F-110. The next time you switch the F-110 on, this parameter reverts to the "OFF" setting.

5. **Press the [Reverb] or [Transpose] button to leave Function mode.**
If you selected "1" or "2," the display now shows the following to indicated that Twin Piano mode is active:



Pedal Settings

Changing How the Damper Pedal is Applied (Damper Pedal Part)

When you press the damper pedal during Dual performance or Split performance, the damper pedal effect is normally applied to both tones, but you can also select the tone to which the effect is to be applied.

1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate "Fnc" and you'll be in Function mode.

2. Press and hold the [Strings] button and use the [-] or [+] button to select "dPr."

3. Release the [Strings] button to see the current setting.

4. Use the [-] [+] buttons to change the setting.

Setting	Explanation
	All enabled
	Applied only to Tone 1 (in dual mode)/Right-hand Tone (in split mode)
	Applied only to Tone 2 (in dual mode)/Left-hand Tone (in split mode)

5. Press the [Reverb] or [Transpose] button to leave Function mode.

Changing How the Pedals Work (Center/Left Pedal Function)

When you turn on the power, the left pedal functions as the soft pedal, and the center pedal functions as the sostenuto pedal (p. 22).

You can change the function of the pedal to a variety of other operations.

1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate "Fnc" and you'll be in Function mode.

2. Hold down the [Strings] button and use the [-] [+] buttons to select the pedal whose function you want to change.

: Center Pedal

: Left Pedal

3. Release the [Strings] button to see the current setting.

4. Use the [-] [+] buttons to change the setting.

Setting	Explanation
 Sostenuto	Sets function to sostenuto pedal. (Selectable only for the center pedal)
 Soft	Sets function to soft pedal. (Selectable only for the left pedal)
 Effects Switch	Effects can be switched on/off by pressing the pedal. When using the rotary effect, you can control the speed of rotation. * The most appropriate type of effect is specified for each sound.
 Play/Stop	The pedal will have the same function as the [▶/■] button.
 Layer	Pressing the pedal will layer on Tone 2, used for Dual performance. * The Dual function can be applied only when using Dual play.
 Octave	Pressing the pedal will layer on a sound one octave higher. * The Octave function cannot be applied while using Twin Piano, Dual play, or Split play.

5. Press the [Reverb] or [Transpose] button to leave Function mode.

Tuning Settings

Matching the Pitch with Other Instruments (Master Tuning)

When playing ensemble with other instruments and in other such instances, you can match the standard pitch to another instrument.

The standard pitch generally refers to the pitch of the note that's played when you finger the middle A key. For a cleaner ensemble sound while performing with one or more other instruments, ensure that each instrument's standard pitch is in tune with that of the other instruments. This tuning of all the instruments to a standard pitch is called "master tuning."

1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate "Fnc" and you'll be in Function mode.

2. Press and hold the [Piano] button and use the [-] or [+] button to select "tun."

3. Release the [Piano] button to see the current setting.

4. Use the [-] [+] buttons to change the setting.



The last three digits are indicated in the display. "440.0 Hz" is indicated in the figure above.

Settings

15.3 Hz-40.0 Hz-66.2 Hz
(415.3 Hz-440.0 Hz-466.2 Hz)

When the instrument is shipped from the factory, this is set to "40.0 (440.0 Hz)."

NOTE

Press the [-] and [+] buttons simultaneously to return to the factory setting (440Hz).

5. Press the [Reverb] or [Transpose] button to leave Function mode.

Adjusting the Tuning (Temperament)

You can play classical music such as baroque pieces using their original tuning.

Most modern songs are composed and played with the assumption that equal temperament (the most common tuning in use today) will be used, but when classical music was composed, there were a wide variety of other tuning systems in existence. Playing a composition with its original tuning lets you enjoy the sonorities of the chords that the composer originally intended.

1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate "Fnc" and you'll be in Function mode.

2. Press and hold the [Piano] button and use the [-] or [+] button to select "tnP."

3. Release the [Piano] button to see the current setting.

4. Use the [-] [+] buttons to change the setting.



Temperament Tonic

You can choose from among the eight tunings described below.

Setting	Temperament	Qualities
1	Equal	In this tuning, each octave is divided into twelve equal steps. Every interval produces about the same amount of slight dissonance.
2	Just (Major)	This tuning eliminates ambiguities in the fifths and thirds. It is unsuited to playing melodies and cannot be transposed, but is capable of beautiful sonorities.
3	Just (Minor)	The Just tunings differ from major and minor keys. You can get the same effect with the minor scale as with the major scale.
4	Arabic	This tuning is suitable for the music of Arabia.

Setting	Temperament	Qualities
5	Kirnberger	This is an improvement of the Meantone and Just tunings that provides a high degree of freedom of modulation. Performances are possible in all keys (III).
6	Meantone	This scale makes some compromises in just intonation, enabling transposition to other keys.
7	Pythagorean	This tuning, devised by the philosopher Pythagoras, eliminates dissonance in fourths and fifths. Dissonance is produced by third-interval chords, but melodies are euphonious.
8	Werckmeister	This temperament combines the Meantone and Pythagorean tunings. Performances are possible in all keys (first technique, III).

5. Press the [Reverb] or [Transpose] button to leave Function mode.

Specifying the Tonic

When playing with tuning other than equal temperament, you need to specify the tonic note for tuning the song to be performed (that is, the note that corresponds to C for a major key or to A for a minor key).

If you choose an equal temperament, there's no need to select a tonic note.

6. Select Function mode (if necessary).

If you are already in Function mode, continue with step (7).

7. Press and hold the [Piano] button and use the [-] or [+] button to select "tnE."

8. Release the [Piano] button to see the current setting.

9. Use the [-] [+] buttons to change the setting.



Temperament Tonic

Display	C	C [♭]	d	E _♭	E	F	F [♭]	G	A _♭	A	b _♭	b
Key	C	C [♯]	D	E _♭	E	F	F [♯]	G	A _♭	A	B _♭	B

NOTE

When performing in ensemble with other instruments, be aware that depending on the key, there may be some shifting of the pitch.

NOTE

Tune the F-110 to the fundamental pitch of the other instruments.

10. Press the [Reverb] or [Transpose] button to leave Function mode.

Stretched Tuning

Pianos are generally tuned so that the low range is flatter and the high range is sharper than equal tempered pitches. This method of tuning is unique to the piano, and is known as "stretched tuning."

1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate "Fnc" and you'll be in Function mode.

2. Press and hold the [Piano] button and use the [-] or [+] button to select "Str."

3. Release the [Piano] button to see the current setting.

4. Use the [-] [+] buttons to change the setting.

Setting	Explanation
	This tuning curve expands the bass and treble ends somewhat. It is suitable for performances such as piano solos.
	This is the standard tuning curve. This is suitable for when using Dual performance (p. 27) or when playing in an ensemble with other instruments.

5. Press the [Reverb] or [Transpose] button to leave Function mode.

Settings for Piano Sounds

Producing Sympathetic Resonance When You Press the Damper Pedal (Damper Resonance)

You can change the volume of the damper pedal resonance. On an acoustic piano, depressing the damper pedal makes the notes you play resonate with other strings, adding rich reverberations and fatness to the sound. The damper pedal on the F-110 recreates this resonance (Damper Resonance) when depressed.

1. **Hold down the [Reverb] button and press the [Transpose] button.**
The display will indicate "Fnc" and you'll be in Function mode.
2. **Press and hold the [Piano] button and use the [-] or [+] button to select "rES."**
3. **Release the [Piano] button to see the current setting.**
4. **Use the [-] [+] buttons to change the setting.**

Setting	Explanation
OFF, 1-10	The resonance volume decreases as the value is lowered, while raising the value increases the volume of the Damper Resonance. The Damper Resonance function is not active when the value is set to "OFF."

5. **Press the [Reverb] or [Transpose] button to leave Function mode.**

Producing the Resonance of the Strings When the Keys Are Played (String Resonance)

When you play the keys on an acoustic piano, the strings that are already playing resonate as well. The function that reproduces this effect is called "String Resonance."

1. **Hold down the [Reverb] button and press the [Transpose] button.**
The display will indicate "Fnc" and you'll be in Function mode.
2. **Press and hold the [Piano] button and use the [-] or [+] button to select "rSt."**
3. **Release the [Piano] button to see the current setting.**
4. **Use the [-] [+] buttons to change the setting.**

Setting	Explanation
OFF, 1-10	The resonance level decreases as the value is decreased, while increasing the value increases the amount of resonance. The String Resonance function is not active when the value is set to "OFF."

5. **Press the [Reverb] or [Transpose] button to leave Function mode.**

Playing Sounds When the Keys Are Released (Key Off Resonance)

You can play the "key off" sound (the subtle sound produced when the keys are released) obtained when playing an acoustic piano.

1. **Hold down the [Reverb] button and press the [Transpose] button.**
The display will indicate "Fnc" and you'll be in Function mode.
2. **Press and hold the [Piano] button and use the [-] or [+] button to select "rOF."**
3. **Release the [Piano] button to see the current setting.**

4. Use the [-] [+] buttons to change the setting.

Setting	Explanation
OFF, 1-10	The volume of the Key Off sound decreases as the value is lowered, while raising the value increases the volume of the Key Off sound. The Key Off Resonance function is not active when the value is set to "OFF."

5. Press the [Reverb] or [Transpose] button to leave Function mode.

Selecting the Part that Will Begin the Count-down (Countdown Part)

Specifies the part that will determine the beginning of the performance when adding a count-down.

The count will sound before the selected part begins playing.




1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate "Fnc" and you'll be in Function mode.

2. Press and hold the [Metronome] button and use the [-] or [+] button to select "Cd.P."

3. Release the [Metronome] button to see the current setting.

4. Use the [-] [+] buttons to change the setting.

Setting	Explanation
	Right-hand and left-hand parts of a song
	Left-hand part of a song
	Right-hand part of a song
1-16	Part 1-16

NOTE

When you select another song, this setting will return to "r - L."

5. Press the [Reverb] or [Transpose] button to leave Function mode.

Count-down Setting

Sounding a Count Before the Melody Begins (Countdown)

A "count-down" is when a count is sounded at the end of the song's introduction (before you begin playing the keyboard). If you will be playing along with the song, sounding a count will help you match the timing of your playing with the song.



1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate "Fnc" and you'll be in Function mode.

2. Press and hold the [Metronome] button and use the [-] or [+] button to select "Ctd."

3. Release the [Metronome] button to see the current setting.

4. Use the [-] [+] buttons to change the setting.

Setting	Explanation
	A count is sounded
	A count is not sounded




5. Press the [Reverb] or [Transpose] button to leave Function mode.

Song Playback Settings

Selecting the Part that is Muted by the [E. Piano] Button (Accomp Track)

Here's how to switch the part that will be muted when you press the [E. Piano] track button and turn off its light.

1. **Hold down the [Reverb] button and press the [Transpose] button.**
The display will indicate "Fnc" and you'll be in Function mode.
2. **Press and hold the [Song] button and use the [-] or [+] button to select "A.tr."**
3. **Release the [Song] button to see the current setting.**
4. **Use the [-] [+] buttons to change the setting.**

Setting	Explanation
	Both the accompaniment and rhythm will be muted.
	Only the accompaniment will be muted. (The rhythm will not be muted.)
	Only the rhythm will be muted. (The accompaniment will not be muted.)

NOTE

The change you make to this setting will not be applied until you select a song.

5. **Press the [Reverb] or [Transpose] button to leave Function mode.**

MIDI Settings

Here you can make various MIDI-related settings for the F-110.
For more about MIDI, refer to "Connecting to MIDI Devices" (p. 64).

Switching VIMA TUNES Recommended Tones (Recommended Tone)

You can connect the F-110's MIDI In port to the MIDI OUT port on your computer's MIDI interface and play back separately sold CD-ROMs created for the VIMA (VIMA TUNES). This requires the "VIMA TUNES PLAYER" software, which is available free of charge on Roland's web site:
<http://www.roland.com/products/en/>

- * Please visit the F-110 product page from Alphabetical index, then open the "Download" page.
Songs on VIMA CD-ROMs (VIMA TUNES) are programmed with "recommended tones" suitable for each song.



When you select a song from a VIMA CD-ROM (VIMA TUNES), recommended tones will be assigned to the F-110's [E. Piano], [Strings], and [Others] tone buttons, and these three tone buttons will blink.

When you press a flashing Tone button, the recommended tone is then selected, enabling you to perform the selected song using a tone matched to that song as it plays back.

You can set the F-110 so that the recommended tones are automatically assigned or not assigned.

1. **Hold down the [Reverb] button and press the [Transpose] button.**
The display will indicate "Fnc" and you'll be in Function mode.
2. **Hold down the Track [Others] button and use the [-] [+] buttons to make the display indicate "rtn."**
When you take your finger off the button, the display will indicate the value of the setting.

3. Use the [-] [+] buttons to change the setting.

Setting	Explanation
	When you select a song from a VIMA CD-ROM (VIMA TUNES), recommended tones will automatically be assigned to the F-110's [E. Piano], [Strings] and [Others] tone buttons.
	The recommended tones are not used, and only the F-110's internal tones can be selected.

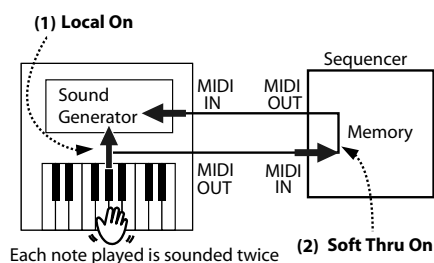
This is set to "On" at the factory.

4. Press the [Reverb] or [Transpose] button to leave Function mode.

Preventing Double Notes when Working with a Sequencer (Local Control)

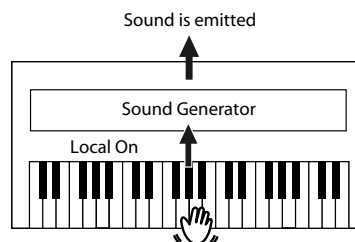
When you have a MIDI sequencer connected, set this parameter to Local Off.

Since the Thru function of your sequencer will normally be turned on, notes played on the keyboard or played back by the recorder will be transmitted to the sound generator by the two routes (1) and (2) shown in the illustration, causing notes to be sounded in duplicate or to be cut off unnaturally. To prevent this, the setting called "Local Off" is used to disconnect the route in (1).



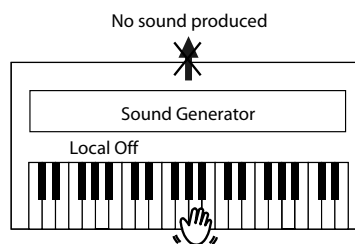
Local On:

The keyboard and recorder are connected to the internal sound generator.



Local Off:

The keyboard and recorder are not connected to the internal sound generator. No sound will be produced by the keyboard when it is played.





1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate "Fnc" and you'll be in Function mode.

2. Press and hold the [Others] button and use the [-] or [+] button to select "L.Ct."

3. Release the [Others] button to see the current setting.

4. Use the [-] [+] buttons to change the setting.

Setting	Explanation
	Local Control is set to On. The keyboard and recorder are connected to the internal sound generator.
	Local Control is set to Off. The keyboard and recorder are not connected to the internal sound generator. Playing the keyboard or playing back a song will not produce sound.

5. Press the [Reverb] or [Transpose] button to leave Function mode.

MIDI Transmit Channel Settings (MIDI Transmit Channel)

This setting specifies the MIDI channel on which the F-110 will transmit.

MIDI uses sixteen "MIDI channels," which are numbered 1 through 16. By connecting MIDI devices and specifying the appropriate MIDI channel for each device, you can play or select sounds on those devices.

The F-110 will receive all sixteen channels (1–16).

1. **Hold down the [Reverb] button and press the [Transpose] button.**
The display will indicate "Fnc" and you'll be in Function mode.
2. **Press and hold the [Others] button and use the [-] or [+] button to select "Ch.."**
3. **Release the [Others] button to see the current setting.**
4. **Use the [-] [+] buttons to change the setting.**

Settings (Channel)

OFF, 1–16

MEMO

If you turn this "OFF," the F-110 will not transmit MIDI data.

MEMO



For details on connecting MIDI devices, refer to "Connecting to MIDI Devices" (p. 64).

5. **Press the [Reverb] or [Transpose] button to leave Function mode.**

Sending Recorded Data to a MIDI Device (Composer MIDI Out)

When Composer MIDI Out is "On," you can send performance data recorded with the F-110 to a connected MIDI device or computer.

1. **Hold down the [Reverb] button and press the [Transpose] button.**
The display will indicate "Fnc" and you'll be in Function mode.
2. **Press and hold the [Others] button and use the [-] or [+] button to select "Out."**
3. **Release the [Others] button to see the current setting.**
4. **Use the [-] [+] buttons to change the setting.**

Setting	Explanation
	Performance data is transmitted.
	Performance data is not transmitted.

5. **Press the [Reverb] or [Transpose] button to leave Function mode.**

Other Settings

Using the V-LINK Function (V-LINK)

Connecting the F-110 to a V-LINK compatible image device allows you to control the images with the F-110.

NOTE

To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.

V-LINK

V-LINK (**V-LINK**) is a function that allows music and images to be performed together. By using MIDI to connect two or more V-LINK compatible devices, you can easily enjoy performing a wide range of visual effects that are linked to the expressive elements of a music performance.

How to Use the V-LINK

1. Hold down the [Song] button and press the [Metronome] button.

The display will indicate “_._.” if the V-LINK function is on, or “..” it is off. Repeat this step to select “_._.”, if necessary.

2. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate “Fnc” and you’ll be in Function mode.

3. Press and hold the [Others] button and use the [-] or [+] button to select “vLn.”

4. Release the [Others] button to see the current setting.

5. Use the [-] [+] buttons to set the desired MIDI channel

Settings (V-LINK Channel)

1-16

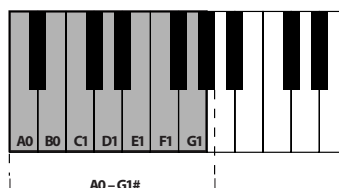
6. Press the [Reverb] or [Transpose] button to leave Function mode.

The button’s indicator will return to its previous state.

If V-LINK is on, the bars at the bottom of the display will be lit.



You can control images using the twelve keys at the left end of the keyboard.



NOTE

While V-LINK is switched on, no sound is produced when you press any of the twelve keys at the left end of the keyboard.

7. To disengage V-LINK, hold down the [Song] button and press the [Metronome] button to select “..”

Remembering the Settings (Memory Backup)

Normally, the settings of the various variations will revert to their default values when the power is turned off. However, you can specify that the various settings will be remembered even when the power is turned off.

This function is called “Memory Backup.”

1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate “Fnc” and you’ll be in Function mode.

2. Press and hold the [Others] button and use the [-] or [+] button to select "buP."

The display will indicate "buP" and the [▶/■] button will blink.



3. Press the [▶/■] button.

The display will indicate "Sur," and the [▶/■] button and [●] button will blink.



If you decide not to save the settings, press the [▶/■] button.

4. To save the settings, press the [●] button.

The "buP" message flashes in the display.

NOTE

Never turn off the power while "buP" is blinking in the display.

When the memory backup has been completed, the display will indicate "Fnc."



MEMO

For details on the settings stored by the Memory Backup operation, refer to "Parameters Stored in Memory Backup" (p. 76).

5. Press the [Reverb] or [Transpose] button to leave Function mode.

Restoring the Settings to the Factory Condition (Factory Reset)

The settings you've changed in Function mode can be restored to their factory-set condition. This operation is called "Factory Reset."

Execute this operation if you want the settings you've stored using Memory Backup to be returned to their original state.

NOTE

When you execute "Factory Reset," all settings you've stored up to that point will be cleared, and reset to their factory-set condition.

NOTE

Executing this operation will not erase the songs from internal memory. If you want to erase all songs from the F-110's internal memory, refer to "Deleting All Songs" (p. 43).

1. Hold down the [Reverb] button and press the [Transpose] button.

The display will indicate "Fnc" and you'll be in Function mode.

2. Press and hold the [Others] button and use the [-] or [+] button to select "Fct."

The display will indicate "Fct" and the [▶/■] button will blink.



3. Press the [▶/■] button.

The display will indicate "Sur," and the [▶/■] button and [●] button will blink.



If you decide not to execute the Factory Reset, press the [▶/■] button.

4. To execute the Factory Reset, press the [●] button.

NOTE

Never turn off the power while "Fct" is blinking in the display.

When the Factory Reset has been completed, the following display will appear.



5. Turn the [Volume] knob all the way toward the left to minimize the volume.
6. Switch the power off, then back on.

Disabling the Buttons (Panel Lock)

If you activate the Panel Lock function, all buttons will be locked and non-functional. You can use this to prevent a child from accidentally changing the settings by inadvertently pressing buttons.

1. Press the [Reverb] button and [Metronome] button simultaneously.

Panel Lock will be activated. All buttons will be disabled. The following screen appears when Panel Lock is in force.



NOTE

Pressing buttons during playback or recording of a song stops the playback or recording.

Canceling the Panel Lock function



Once again, press the [Reverb] button and [Metronome] button simultaneously.

MEMO

Panel Lock will be cancelled when you turn off the power.

Connecting to Other Devices

Connecting to Audio Equipment

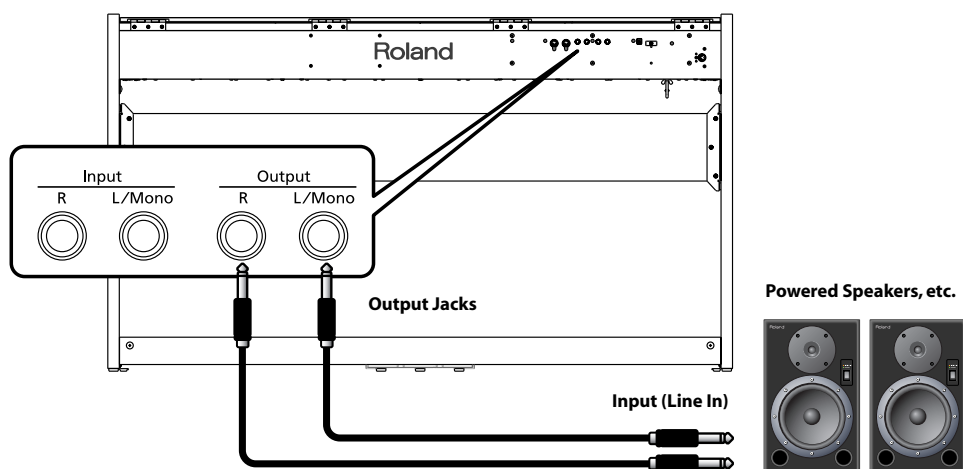
If you connect the F-110 to powered speakers or to an audio system that has line input jacks, you'll be able to hear the F-110's sound from your powered speakers or audio system.

If you connect your digital audio player or other audio playback device to the F-110, you'll be able to hear its sound via the F-110.

Use phone plug audio cables (sold separately) to make connections.

- To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.
- When connection cables with resistors are used, the volume level of equipment connected to the input jacks may be low. If this happens, use connection cables that do not contain resistors.

Connecting External Powered Speakers to the F-110



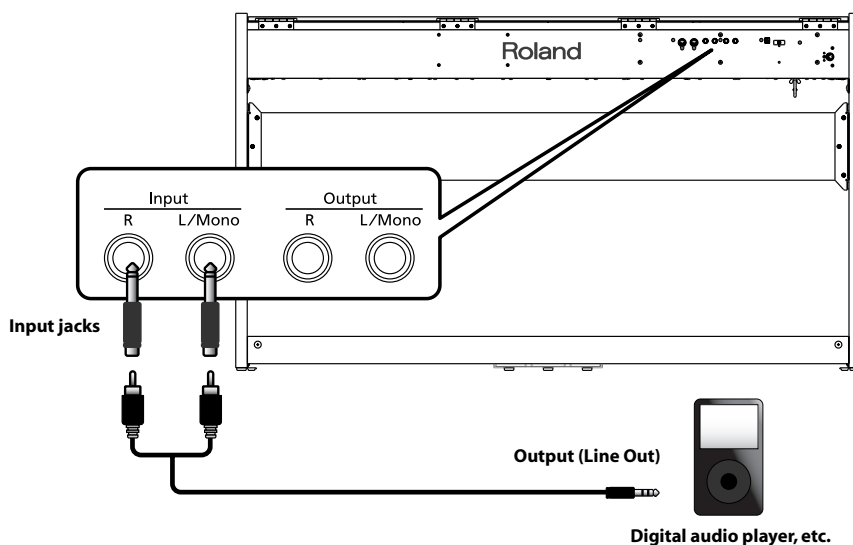
1. Turn the volume all the way down on the F-110 and on the device you're about to connect.
2. Turn off the power to the F-110 and connected powered speakers.
3. Use audio cables (sold separately) to make the connection.
4. Switch on the F-110.
5. Switch on the connected powered speakers.
6. Adjust the volume level on the F-110 and the connected powered speakers.

When you play the F-110's keyboard, the sound is played from the connected powered speakers.

Turning Off the Power

1. Turn the volume all the way down on the F-110 and on the powered speakers you're about to connect.
2. Turn off the connected powered speakers.
3. Turn off the F-110.

Playing Sounds of an Audio Player through the F-110



1. Turn the volume all the way down on the F-110 and on the audio player you're about to connect.
2. Turn off the power to the F-110 and connected audio player.
3. Use audio cables (sold separately) to make the connection.
4. Switch on the connected audio player.
5. Switch on the F-110.
6. Adjust the volume level on the F-110 and the connected audio player.

The sounds from the connected audio player are played by the F-110.

MEMO

Adjust the volume by using the controls of your audio player.

Turning Off the Power

1. Turn the volume all the way down on the F-110 and on the audio player you're about to connect.
2. Turn off the F-110.
3. Turn off the connected audio player.

Connecting to MIDI Devices

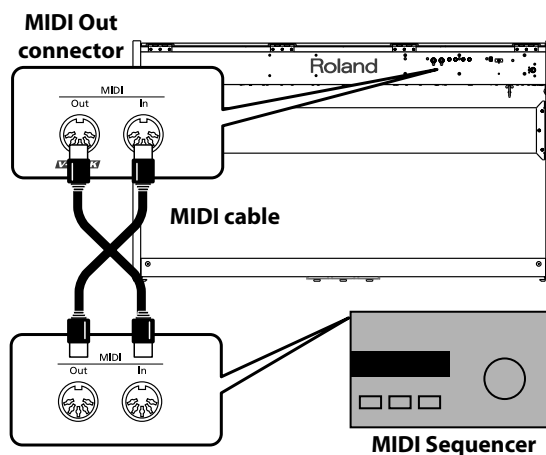
By connecting an external MIDI device and exchanging performance data, you can control one device from the other. For instance, you can output sound from the other instrument or switch Tones on the other instrument.

What's MIDI?

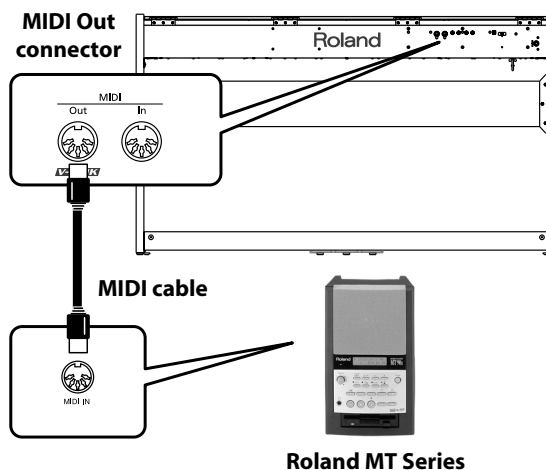
MIDI, short for "Musical Instrument Digital Interface," was developed as a universal standard for the exchange of performance data among electronic musical instruments and computers.

The F-110 is equipped with MIDI connectors to let it exchange performance data with external devices. These connectors can be used to connect the F-110 to an external device for even greater versatility.

Connecting a MIDI Sequencer to the F-110



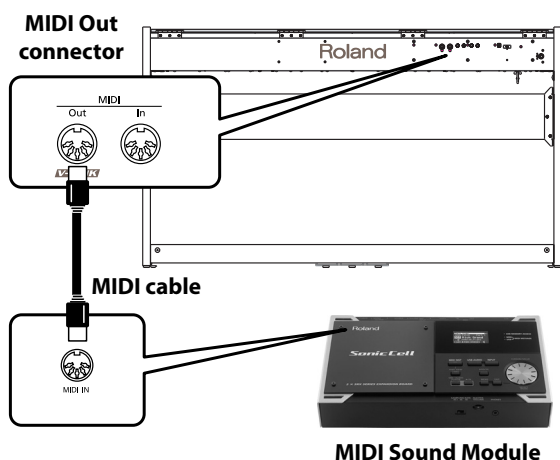
Connecting the Roland MT Series



MEMO

When the F-110 is connected to a MIDI sequencer, set it to "Local Off." Refer to "Preventing Double Notes when Working with a Sequencer (Local Control)" (p. 57).

Producing Sounds from a MIDI Sound Module by Playing the F-110



Making the Connection

1. Turn the volume all the way down on the F-110 and on the MIDI device you're about to connect.
2. Switch off the power to the F-110 and the MIDI device you're about to connect.
3. Use MIDI cables (sold separately) to connect the MIDI connectors to each other.
4. Switch on the power to the F-110 and the connected device.
5. Adjust the volume level on the F-110 and the connected device.
6. You should also set the MIDI transmit channel as needed (p. 58).

Connecting a Computer

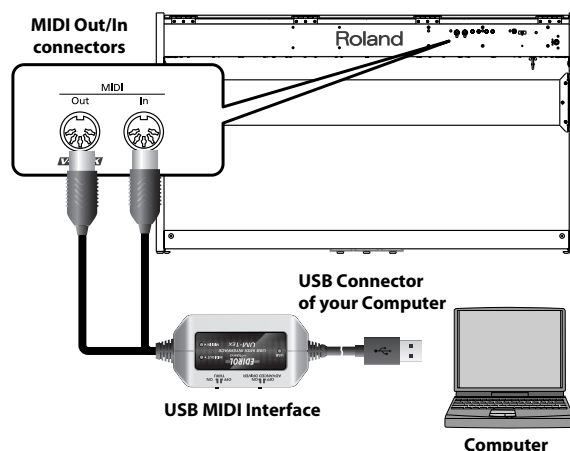
You can use a USB MIDI interface cable (sold separately) to connect the F-110 to your computer.

If the F-110 is connected to a computer in which sequencer software is installed, a song you've recorded on the F-110 can be saved on your computer.

Connection Examples

- * To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.
- * In order to make connections to your computer, you must install "MIDI driver" software on your computer. For details, refer to the owner's manual for your MIDI interface.

Use a USB MIDI interface cable to connect the USB connector of your computer to the MIDI connectors of the F-110.



Troubleshooting

If you think there's a problem, read this first.

Symptom	Cause/Action	Page
Power does not turn on	Is the AC adaptor connected correctly?	p. 19
Pedal does not work, or is "stuck"	Is the pedal connected correctly? Plug the cable firmly into the pedal connector.	p. 19
	If you disconnect the pedal cable from the F-110 while the power is on, the pedal effect may remain "stuck" in the On condition. You must switch off the F-110's power before connecting or disconnecting the pedal cable.	—
	If you've switched the function of the soft pedal or sostenuto pedal, these pedals will not operate as the soft pedal or sostenuto pedal.	p. 51
"Buzz" is heard from external devices	Are the external devices connected to more than one AC power outlet? If you connect external devices, be sure to connect them to the same AC outlet.	—
Device connected to the Input jacks have insufficient volume	Could you be using a connection cable that contains a resistor? Use a connection cable that does not contain a resistor.	—
No sound		
No sound	Could the F-110's volume or the volume of the connected equipment be turned down?	p. 21 p. 62
	Could headphones be connected? Could there be a plug inserted in a headphone jack? The speakers will not produce sound if headphones or plug are connected to the headphone jacks.	p. 22
	Has Local Control been set to "Off"? When Local Control is set to Off, no sound is produced by playing back a song. Set Local Control to On.	p. 57
No sound when you play back a song	Has Local Control been set to "Off"? When Local Control is set to Off, no sound is produced by playing back a song. Set Local Control to On.	p. 57
	Could the song volume be set to "0"?	p. 34
No sound from the leftmost notes of the keyboard	Is V-LINK switched on? When V-LINK is on, the lowest twelve notes of the keyboard are used to control the image, and will not produce sound.	p. 59
No sound (when a MIDI device is connected)	Are all devices powered on?	—
	Are the MIDI cables connected correctly?	p. 64
	Do the MIDI channels of the F-110 and the connected device match?	p. 58
Not all the notes you play are sounded	The maximum simultaneous polyphony is 128 notes. If you're using the Dual performance, if you're playing along with a song, or if you're making extensive use of the damper pedal, the performance data may exceed the available polyphony, possibly causing some of the notes you play to drop out.	—
Notes don't sound right		
Pitch of the keyboard or song is incorrect	Could you have made Transpose settings?	p. 26
	Is the Master Tune setting appropriate?	p. 52
	Is the setting for the Temperament correct?	p. 52
Sounds are heard twice (doubled) when the keyboard is played	Is the F-110 in Dual performance mode?	p. 27
	When the F-110 is connected to an external sequencer, set the Local Control to off. Alternatively, the sequencer could be set so its Soft Thru feature is Off.	p. 57

Symptom	Cause/Action	Page
The wrong instrument is selected when you press the [E. Piano], [Strings], or [Others] button	The Tone buttons [E. Piano], [Strings], and [Others] also operate as buttons that select "Recommended Tones." With the factory settings, connecting the F-110 to a computer running "VIMA TUNES PLAYER" and selecting a song produced for the VIMA (VIMA TUNES) will automatically cause sounds appropriate for that song to be assigned to the [E. Piano], [Strings], and [Others] Tone buttons, so that you can select "recommended" sounds by pressing one of these buttons. You can also make settings so that "recommended" sounds are not automatically assigned.	p. 56
Effect not applied	When you are using Dual performance or Split performance, and different effects are specified for the two selected tones, the effect will not be applied to Tone 2 (when using Dual performance) or the left-hand tone (when using Split performance).	—
Reverberation remains even if you defeat the Reverb effect	The F-110's piano sound faithfully simulates the depth and resonance of an acoustic piano, and this may give the impression of reverberation even if you've defeated the Reverb effect. * Lowering the Key Off Resonance (p. 54) may improve matters.	—
The sound of the higher notes suddenly changes from a certain key	On an acoustic piano, the approximately one and a half octaves of notes at the upper end of the keyboard will continue sounding regardless of the damper pedal. These notes also have a somewhat different tonal character. F-110 faithfully simulate this characteristic of acoustic pianos. On the F-110, the range that is unaffected by the damper pedal will change according to the transpose setting.	—
High-pitched ringing is heard	If you hear this in headphones: Piano sounds that have a brilliant and crisp character contain substantial high-frequency components that may sound as though a metallic ringing has been added. This is because the characteristics of an actual piano are being faithfully reproduced; it does indicate a malfunction. This ringing is more obtrusive if the reverb effect is applied heavily, so you may be able to minimize it by decreasing the reverb. If you don't hear this in headphones: It is likely that there is some other reason (such as resonances within the unit). Please contact your dealer or the nearest Roland service center.	—
Low notes sound wrong, or are buzzy	If you don't hear this in headphones: Performing at high volumes may cause the speakers or objects near the F-110 to resonate. Fluorescent lights or glass doors may also resonate sympathetically. In particular, this is more likely to occur for lower notes and higher volumes. You can take the following measures to minimize resonances. <ul style="list-style-type: none"> • Locate the speakers 10–15 cm away from walls or other surfaces. • Keep the volume down. • Move away from the objects that are resonating. If you hear this in headphones: It is likely that there is some other reason. Please contact your dealer or a nearby Roland service center.	—
	If you set the volume to the maximum setting, the sound may be distorted depending on how you perform. If this occurs, turn down the volume.	p. 21
Song does not play correctly		
Song won't play	Does the indication "dEL" appear in the screen? Internal songs cannot be played if you have recorded a performance and not yet saved it. Delete this performance data, and then play back the song.	p. 32
Only the sound of a particular instrument in a song does not play	Could a track be muted? Muted tracks are not played back. Hold down the [►/■] button and press [E. Piano], [Strings] and/or [Others] (the indicator must light).	p. 33
Can't record / play back		
Can't record	Has one of the track buttons for recording been selected?	p. 37 p. 39
The recorded performance disappeared	Your recorded performance will disappear if you switch off the F-110's power or select a song. There is no way to recover the lost performance. Before you turn off the power, save your recorded performance in internal Memory.	p. 41

Error Messages

Indication	Meaning
E.11	There is not sufficient free memory in the save destination. Delete unneeded files (p. 42), and try again.
E.30	The internal memory of the F-110 is full.
E.40	The F-110 cannot deal with the excessive MIDI data sent from the external MIDI device. Reduce the amount of MIDI data sent to the F-110.
E.41	A MIDI cable has been disconnected. Connect it properly and securely.
E.43	A MIDI transmission error has occurred. Check the MIDI cable and connected MIDI device.
E.51	There may be a problem with the system. Repeat the procedure from the beginning. If it is not solved after you have tried a number of times, contact the Roland service center.
--	The Panel Lock function is on (p. 61).
P - P	The Twin Piano function is on (p. 50).
dEL	If you record a performance, then select a song before you've saved your recording, "dEL" will appear, flashing, in the display (p. 42).

Tone List

* The following numbers are necessary if you wish to use an external MIDI device to select sounds on the F-110 .

MSB: Bank select MSB, **LSB:** Bank select LSB, **PC:** Program change

Piano

#	Name	MSB	LSB	PC
1	Grand Piano1	0	68	1
2	Piano + Str.	25	64	1
3	Harpsichord	0	66	7
4	Grand Piano2	16	67	1
5	Piano+Choir	26	64	1
6	Honky-tonk	0	64	4

E.Piano

#	Name	MSB	LSB	PC
1	Pop E.Piano	16	67	5
2	FM E.Piano	0	70	6
3	Vibraphone	0	0	12
4	Celesta	0	0	9
5	'60s E.Piano	24	65	5
6	Clav.	0	67	8
7	Morning Lite	0	68	99

Strings

#	Name	MSB	LSB	PC
Strings				
1	Rich Strings	0	71	50
2	OrchestraStr	0	64	49
3	Harp	0	68	47
4	Violin	0	0	41
5	Flute	0	64	74
6	PizzicatoStr	0	0	46
7	DecayStrings*	1	65	50
Voice				
8	Aerial Choir	8	64	53
9	Jazz Scat	0	65	55
10	Soft Pad	0	64	90
11	Female Aahs	8	66	53
12	Male Aahs	8	68	53
13	Thum Voice	0	66	54

#	Name	MSB	LSB	PC
14	Decay Choir*	1	64	53
15	Dcy ChoirPad*	1	66	90

* Tones indicated by "*" are suitable for playing layered with a piano tone.

Others

#	Name	MSB	LSB	PC
Organ				
1	ChurchOrgan1	0	66	20
2	ChurchOrgan2	8	69	20
3	Combo Jz.Org	0	70	19
4	Ballad Organ	0	69	19
5	Nason flt 8'	16	66	20
6	Mellow Bars	32	68	17
7	Light Organ	32	69	17
8	Lower Organ	0	66	17
Guitar				
9	Nylon-str.Gt	0	0	25
10	Steel-str.Gt	0	0	26
11	AcousticBass	0	71	33
12	A.Bass+Cymb1	0	66	33
13	FingeredBass	0	0	34
GM2				
14	STANDARD Set	120	0	1
15	ROOM Set	120	0	9
16	POWER Set	120	0	17
17	ELEC.Set	120	0	25
18	ANALOG Set	120	0	26
19	JAZZ Set	120	0	33
20	BRUSH Set	120	0	41
21	ORCH.Set	120	0	49
22	SFX Set	120	0	57
* 14–22 are drum sets. Refer to p. 72–74 for details on the sounds in the drum sets.				
#	Name	MSB	LSB	PC
23	Piano 1	121	0	1
24	Piano 1w	121	1	1

#	Name	MSB	LSB	PC
25	Piano 1d	121	2	1
26	Piano 2	121	0	2
27	Piano 2w	121	1	2
28	Piano 3	121	0	3
29	Piano 3w	121	1	3
30	Honky-tonk	121	0	4
31	Honky-tonk w	121	1	4
32	E.Piano 1	121	0	5
33	Detuned EP 1	121	1	5
34	Vintage EP	121	2	5
35	'60s E.Piano	121	3	5
36	E.Piano 2	121	0	6
37	Detuned EP 2	121	1	6
38	St.FM EP	121	2	6
39	EP Legend	121	3	6
40	EP Phase	121	4	6
41	Harpsichord	121	0	7
42	Coupled Hps.	121	1	7
43	Harpsi.w	121	2	7
44	Harpsi.o	121	3	7
45	Clav.	121	0	8
46	Pulse Clav.	121	1	8
47	Celesta	121	0	9
48	Glockenspiel	121	0	10
49	Music Box	121	0	11
50	Vibraphone	121	0	12
51	Vibraphone w	121	1	12
52	Marimba	121	0	13
53	Marimba w	121	1	13
54	Xylophone	121	0	14
55	TubularBells	121	0	15
56	Church Bell	121	1	15
57	Carillon	121	2	15
58	Santur	121	0	16
59	Organ 1	121	0	17
60	TremoloOrgan	121	1	17
61	'60s Organ	121	2	17
62	Organ 2	121	3	17
63	Perc.Organ 1	121	0	18

* The following numbers are necessary if you wish to use an external MIDI device to select sounds on the F-110 .

MSB: Bank select MSB, **LSB:** Bank select LSB, **PC:** Program change

Tone List

#	Name	MSB	LSB	PC
64	Chorus Organ	121	1	18
65	Perc.Organ 2	121	2	18
66	Rock Organ	121	0	19
67	Church Org.1	121	0	20
68	Church Org.2	121	1	20
69	Church Org.3	121	2	20
70	Reed Organ	121	0	21
71	Puff Organ	121	1	21
72	Accordion 1	121	0	22
73	Accordion 2	121	1	22
74	Harmonica	121	0	23
75	Bandoneon	121	0	24
76	Nylon-str.Gt	121	0	25
77	Ukulele	121	1	25
78	Nylon Gt o	121	2	25
79	Nylon Gt 2	121	3	25
80	Steel-str.Gt	121	0	26
81	12-str.Gt	121	1	26
82	Mandolin	121	2	26
83	Steel+Body	121	3	26
84	Jazz Guitar	121	0	27
85	Hawaiian Gt	121	1	27
86	Clean Guitar	121	0	28
87	Chorus Gt 1	121	1	28
88	Mid Tone Gt	121	2	28
89	Muted Guitar	121	0	29
90	Funk Guitar1	121	1	29
91	Funk Guitar2	121	2	29
92	Chorus Gt 2	121	3	29
93	Overdrive Gt	121	0	30
94	Guitar Pinch	121	1	30
95	DistortionGt	121	0	31
96	Gt Feedback1	121	1	31
97	Dist.Rtm Gt	121	2	31
98	Gt Harmonics	121	0	32
99	Gt Feedback2	121	1	32
100	AcousticBass	121	0	33
101	FingeredBass	121	0	34
102	Finger Slap	121	1	34

#	Name	MSB	LSB	PC
103	Picked Bass	121	0	35
104	FretlessBass	121	0	36
105	Slap Bass 1	121	0	37
106	Slap Bass 2	121	0	38
107	Synth Bass 1	121	0	39
108	WarmSyn.Bass	121	1	39
109	Synth Bass 3	121	2	39
110	Clav.Bass	121	3	39
111	Hammer	121	4	39
112	Synth Bass 2	121	0	40
113	Synth Bass 4	121	1	40
114	RubberSyn.Bs	121	2	40
115	Attack Pulse	121	3	40
116	Violin	121	0	41
117	Slow Violin	121	1	41
118	Viola	121	0	42
119	Cello	121	0	43
120	Contrabass	121	0	44
121	Tremolo Str.	121	0	45
122	PizzicatoStr	121	0	46
123	Harp	121	0	47
124	Yang Qin	121	1	47
125	Timpani	121	0	48
126	Strings	121	0	49
127	Orchestra	121	1	49
128	'60s Strings	121	2	49
129	Slow Strings	121	0	50
130	Syn.Strings1	121	0	51
131	Syn.Strings3	121	1	51
132	Syn.Strings2	121	0	52
133	Choir 1	121	0	53
134	Choir 2	121	1	53
135	Voice	121	0	54
136	Humming	121	1	54
137	Synth Voice	121	0	55
138	Analog Voice	121	1	55
139	OrchestraHit	121	0	56
140	Bass Hit	121	1	56
141	6th Hit	121	2	56

#	Name	MSB	LSB	PC
142	Euro Hit	121	3	56
143	Trumpet	121	0	57
144	Dark Trumpet	121	1	57
145	Trombone 1	121	0	58
146	Trombone 2	121	1	58
147	Bright Tb	121	2	58
148	Tuba	121	0	59
149	MuteTrumpet1	121	0	60
150	MuteTrumpet2	121	1	60
151	French Horn1	121	0	61
152	French Horn2	121	1	61
153	Brass 1	121	0	62
154	Brass 2	121	1	62
155	Synth Brass1	121	0	63
156	Synth Brass3	121	1	63
157	AnalogBrass1	121	2	63
158	Jump Brass	121	3	63
159	Synth Brass2	121	0	64
160	Synth Brass4	121	1	64
161	AnalogBrass2	121	2	64
162	Soprano Sax	121	0	65
163	Alto Sax	121	0	66
164	Tenor Sax	121	0	67
165	Baritone Sax	121	0	68
166	Oboe	121	0	69
167	English Horn	121	0	70
168	Bassoon	121	0	71
169	Clarinet	121	0	72
170	Piccolo	121	0	73
171	Flute	121	0	74
172	Recorder	121	0	75
173	Pan Flute	121	0	76
174	Bottle Blow	121	0	77
175	Shakuhachi	121	0	78
176	Whistle	121	0	79
177	Ocarina	121	0	80
178	Square Lead1	121	0	81
179	Square Lead2	121	1	81
180	Sine Lead	121	2	81

* The following numbers are necessary if you wish to use an external MIDI device to select sounds on the F-110 .

MSB: Bank select MSB, **LSB:** Bank select LSB, **PC:** Program change

Tone List

#	Name	MSB	LSB	PC
181	Saw Lead 1	121	0	82
182	Saw Lead 2	121	1	82
183	Doctor Solo	121	2	82
184	Natural Lead	121	3	82
185	SequencedSaw	121	4	82
186	Syn.Calliope	121	0	83
187	Chiffer Lead	121	0	84
188	Charang	121	0	85
189	Wire Lead	121	1	85
190	Solo Vox	121	0	86
191	5th Saw Lead	121	0	87
192	Bass+Lead	121	0	88
193	Delayed Lead	121	1	88
194	Fantasia	121	0	89
195	Warm Pad	121	0	90
196	Sine Pad	121	1	90
197	Polysynth	121	0	91
198	Space Voice	121	0	92
199	Itopia	121	1	92
200	Bowed Glass	121	0	93
201	Metallic Pad	121	0	94
202	Halo Pad	121	0	95
203	Sweep Pad	121	0	96
204	Ice Rain	121	0	97
205	Soundtrack	121	0	98
206	Crystal	121	0	99
207	Synth Mallet	121	1	99
208	Atmosphere	121	0	100
209	Brightness	121	0	101
210	Goblins	121	0	102
211	Echo Drops	121	0	103
212	Echo Bell	121	1	103
213	Echo Pan	121	2	103
214	Star Theme	121	0	104
215	Sitar 1	121	0	105
216	Sitar 2	121	1	105
217	Banjo	121	0	106
218	Shamisen	121	0	107
219	Koto	121	0	108

#	Name	MSB	LSB	PC
220	Taisho Koto	121	1	108
221	Kalimba	121	0	109
222	Bagpipe	121	0	110
223	Fiddle	121	0	111
224	Shanai	121	0	112
225	Tinkle Bell	121	0	113
226	Agogo	121	0	114
227	Steel Drums	121	0	115
228	Woodblock	121	0	116
229	Castanets	121	1	116
230	Taiko	121	0	117
231	Concert BD	121	1	117
232	Melodic Tom1	121	0	118
233	Melodic Tom2	121	1	118
234	Synth Drum	121	0	119
235	TR-808 Tom	121	1	119
236	Elec.Perc.	121	2	119
237	Reverse Cym.	121	0	120
238	Gt FretNoise	121	0	121
239	Gt Cut Noise	121	1	121
240	BsStringSlap	121	2	121
241	Breath Noise	121	0	122
242	Fl.Key Click	121	1	122
243	Seashore	121	0	123
244	Rain	121	1	123
245	Thunder	121	2	123
246	Wind	121	3	123
247	Stream	121	4	123
248	Bubble	121	5	123
249	Bird 1	121	0	124
250	Dog	121	1	124
251	Horse Gallop	121	2	124
252	Bird 2	121	3	124
253	Telephone 1	121	0	125
254	Telephone 2	121	1	125
255	DoorCreaking	121	2	125
256	Door	121	3	125
257	Scratch	121	4	125
258	Wind Chimes	121	5	125

#	Name	MSB	LSB	PC
259	Helicopter	121	0	126
260	Car Engine	121	1	126
261	Car Stop	121	2	126
262	Car Pass	121	3	126
263	Car Crash	121	4	126
264	Siren	121	5	126
265	Train	121	6	126
266	Jetplane	121	7	126
267	Starship	121	8	126
268	Burst Noise	121	9	126
269	Applause	121	0	127
270	Laughing	121	1	127
271	Screaming	121	2	127
272	Punch	121	3	127
273	Heart Beat	121	4	127
274	Footsteps	121	5	127
275	Gun Shot	121	0	128
276	Machine Gun	121	1	128
277	Laser Gun	121	2	128
278	Explosion	121	3	128

* In the tone group "Others" when you hold down the [-] or [+] button to switch tone in succession, the tones will stop changing at number 14 and number 23.
To select the next sound, release the [-] or [+] button, then press it again.

Drum Set List

	Standard Set	Room Set	Power Set	Electronic Set
27	High-Q Slap	High-Q Slap	High-Q Slap	High-Q Slap
28	Scratch Push [EXC7]	Scratch Push [EXC7]	Scratch Push [EXC7]	Scratch Push [EXC7]
29	Scratch Pull [EXC7]	Scratch Pull [EXC7]	Scratch Pull [EXC7]	Scratch Pull [EXC7]
30	Sticks	Sticks	Sticks	Sticks
31	Square Click	Square Click	Square Click	Square Click
32	Metronome Click	Metronome Click	Metronome Click	Metronome Click
33	Metronome Bell	Metronome Bell	Metronome Bell	Metronome Bell
34	Kick Drum 2	Room Kick 2	Room Kick 1	Power Kick
35	Kick Drum 1	Room Kick 1	Power Kick	Electric Kick
C2 36	Side Stick	Side Stick	Side Stick	Side Stick
37	Snare Drum	Room Snare	Power Snare	Electric Snare 1
38	Hand Clap	Hand Clap	Hand Clap	Hand Clap
39	Electric Snare 3	Electric Snare 4	Electric Snare 5	Electric Snare 2
40	Low Tom 2	Room Low Tom 2	Power Low Tom 2	Electric Low Tom 2
41	Closed Hi-Hat 1 [EXC1]	Closed Hi-Hat 2 [EXC1]	Closed Hi-Hat 2 [EXC1]	Closed Hi-Hat 2 [EXC1]
42	Low Tom 1	Room Low Tom 1	Power Low Tom 1	Electric Low Tom 1
43	Pedal Hi-Hat 1 [EXC1]	Pedal Hi-Hat 2 [EXC1]	Pedal Hi-Hat 2 [EXC1]	Pedal Hi-Hat 2 [EXC1]
44	Mid Tom 2	Room Mid Tom 2	Power Mid Tom 2	Electric Mid Tom 2
45	Open Hi-Hat 1 [EXC1]	Open Hi-Hat 2 [EXC1]	Open Hi-Hat 2 [EXC1]	Open Hi-Hat 2 [EXC1]
46	Mid Tom 1	Room Mid Tom 1	Power Mid Tom 1	Electric Mid Tom 1
47	High Tom 2	Room High Tom 2	Power High Tom 2	Electric High Tom 2
C3 48	Crash Cymbal 1	Crash Cymbal 3	Crash Cymbal 3	Crash Cymbal 3
49	High Tom 1	Room High Tom 1	Power High Tom 1	Electric High Tom 1
50	Ride Cymbal 1	Ride Cymbal 3	Ride Cymbal 3	Ride Cymbal 3
51	Chinese Cymbal 1	Chinese Cymbal 2	Chinese Cymbal 2	Reverse Cymbal
52	Ride Bell 1	Ride Bell 2	Ride Bell 2	Ride Bell 2
53	Tambourine	Tambourine	Tambourine	Tambourine
54	Splash Cymbal	Splash Cymbal	Splash Cymbal	Splash Cymbal
55	Cowbell	Cowbell	Cowbell	Cowbell
56	Crash Cymbal 2	Crash Cymbal 4	Crash Cymbal 4	Crash Cymbal 4
57	Vibraslap	Vibraslap	Vibraslap	Vibraslap
58	Ride Cymbal 2	Ride Cymbal 4	Ride Cymbal 4	Ride Cymbal 4
59	High Bongo 1	High Bongo 2	High Bongo 2	High Bongo 2
C4 60	Low Bongo 1	Low Bongo 2	Low Bongo 2	Low Bongo 2
61	Mute High Conga 1	Mute High Conga 2	Mute High Conga 2	Mute High Conga 2
62	Open High Conga	Open High Conga	Open High Conga	Open High Conga
63	Low Conga	Low Conga	Low Conga	Low Conga
64	High Timbale	High Timbale	High Timbale	High Timbale
65	Low Timbale	Low Timbale	Low Timbale	Low Timbale
66	High Agogo	High Agogo	High Agogo	High Agogo
67	Low Agogo	Low Agogo	Low Agogo	Low Agogo
68	Cabasa	Cabasa	Cabasa	Cabasa
69	Maracas	Maracas	Maracas	Maracas
70	Short High Whistle [EXC2]	Short High Whistle [EXC2]	Short High Whistle [EXC2]	Short High Whistle [EXC2]
71	Long Low Whistle [EXC2]	Long Low Whistle [EXC2]	Long Low Whistle [EXC2]	Long Low Whistle [EXC2]
C5 72	Short Guiro [EXC3]	Short Guiro [EXC3]	Short Guiro [EXC3]	Short Guiro [EXC3]
73	Long Guiro [EXC3]	Long Guiro [EXC3]	Long Guiro [EXC3]	Long Guiro [EXC3]
74	Claves	Claves	Claves	Claves
75	High Woodblock	High Woodblock	High Woodblock	High Woodblock
76	Low Woodblock	Low Woodblock	Low Woodblock	Low Woodblock
77	Mute Cuica [EXC4]	Mute Cuica [EXC4]	Mute Cuica [EXC4]	Mute Cuica [EXC4]
78	Open Cuica [EXC4]	Open Cuica [EXC4]	Open Cuica [EXC4]	Open Cuica [EXC4]
79	Mute Triangle [EXC5]	Mute Triangle [EXC5]	Mute Triangle [EXC5]	Mute Triangle [EXC5]
80	Open Triangle [EXC5]	Open Triangle [EXC5]	Open Triangle [EXC5]	Open Triangle [EXC5]
81	Shaker	Shaker	Shaker	Shaker
82	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell
83	Bar Chimes	Bar Chimes	Bar Chimes	Bar Chimes
C6 84	Castanets	Castanets	Castanets	Castanets
85	Mute Surdo [EXC6]	Mute Surdo [EXC6]	Mute Surdo [EXC6]	Mute Surdo [EXC6]
86	Open Surdo [EXC6]	Open Surdo [EXC6]	Open Surdo [EXC6]	Open Surdo [EXC6]
87	—	—	—	—
88	—	—	—	—

* -----: No sound.

* [EXC]: will not sound simultaneously with other percussion instruments of the same number.

	Analog Set	Jazz Set	Brush Set	Orchestra Set
27	High-Q Slap	High-Q Slap	High-Q Slap	Closed Hi-Hat 2 [EXC1]
28	Scratch Push [EXC7]	Scratch Push [EXC7]	Scratch Push [EXC7]	Pedal Hi-Hat 2 [EXC1]
29	Scratch Pull [EXC7]	Scratch Pull [EXC7]	Scratch Pull [EXC7]	Open Hi-Hat 2 [EXC1]
30	Sticks	Sticks	Sticks	Ride Cymbal 3
31	Square Click	Square Click	Square Click	Sticks
32	Metronome Click	Metronome Click	Metronome Click	Square Click
33	Metronome Bell	Metronome Bell	Metronome Bell	Metronome Click
34	TR-808 Kick 2	Room Kick 2	Room Kick 2	Metronome Bell
35	TR-808 Kick 1	Jazz Kick	Jazz Kick	Concert Bass Drum 2
C2 36	TR-808 Rim shot	Side Stick	Side Stick	Concert Bass Drum 1
37	TR-808 Snare	Jazz Snare	Brush Tap	Side Stick
38	Hand Clap	Hand Clap	Brush Slap1	Concert Snare Drum
39	Electric Snare 6	Electric Snare 7	Brush Swirl	Castanets
40	TR-808 Low Tom 2	Jazz Low Tom	Brush Low Tom 2	Concert Snare Drum
41	TR-808 Closed Hi-Hat 1 [EXC1]	Closed Hi-Hat 2 [EXC1]	Brush Closed Hi-Hat [EXC1]	Timpani F
42	TR-808 Low Tom 1	Low Tom 1	Brush Low Tom 1	Timpani F#
43	TR-808 Closed Hi-Hat 2 [EXC1]	Pedal Hi-Hat 2 [EXC1]	Brush Pedal Hi-Hat [EXC1]	Timpani G
44	TR-808 Mid Tom 2	Mid Tom 2	Brush Mid Tom 2	Timpani G#
45	TR-808 Open Hi-Hat [EXC1]	Open Hi-Hat 2 [EXC1]	Brush Open Hi-Hat [EXC1]	Timpani A
46	TR-808 Mid Tom 1	Jazz Mid Tom	Brush Mid Tom 1	Timpani A#
47	TR-808 High Tom 2	Jazz High Tom 2	Brush High Tom 2	Timpani B
C3 48	TR-808 Crash Cymbal	Crash Cymbal 3	Jazz Crash Cymbal	Timpani C
49	TR-808 High Tom 1	Jazz High Tom 1	Brush High Tom 1	Timpani C#
50	Ride Cymbal 3	Ride Cymbal 3	Jazz Ride Cymbal 1	Timpani D
51	Chinese Cymbal 2	Chinese Cymbal 2	Chinese Cymbal 2	Timpani D#
52	Ride Bell 2	Ride Bell 2	Jazz Ride Cymbal 2	Timpani E
53	Tambourine	Tambourine	Tambourine	Timpani F
54	Splash Cymbal	Splash Cymbal	Splash Cymbal	Tambourine
55	TR-808 Cowbell	Cowbell	Cowbell	Splash Cymbal
56	Crash Cymbal 4	Crash Cymbal 4	Crash Cymbal 4	Cowbell
57	Vibraslap	Vibraslap	Vibraslap	Concert Cymbal 2
58	Ride Cymbal4	Ride Cymbal4	Ride Cymbal4	Vibraslap
59	High Bongo 2	High Bongo 2	High Bongo 2	Concert Cymbal 1
C4 60	Low Bongo 2	Low Bongo 2	Low Bongo 2	High Bongo 2
61	TR-808 High Conga	Mute High Conga 2	Mute High Conga 2	Low Bongo 2
62	TR-808 Mid Conga	Open High Conga	Open High Conga	Mute High Conga 2
63	TR-808 Low Conga	Low Conga	Low Conga	Open High Conga
64	High Timbale	High Timbale	High Timbale	Low Conga
65	Low Timbale	Low Timbale	Low Timbale	High Timbale
66	High Agogo	High Agogo	High Agogo	Low Timbale
67	Low Agogo	Low Agogo	Low Agogo	High Agogo
68	Cabasa	Cabasa	Cabasa	Low Agogo
69	TR-808 Maracas	Maracas	Maracas	Low Agogo
70	Short High Whistle [EXC2]	Short High Whistle [EXC2]	Short High Whistle [EXC2]	Cabasa
71	Long Low Whistle [EXC2]	Long Low Whistle [EXC2]	Long Low Whistle [EXC2]	Maracas
C5 72	Short Guiro [EXC3]	Short Guiro [EXC3]	Short Guiro [EXC3]	Short High Whistle [EXC2]
73	Long Guiro [EXC3]	Long Guiro [EXC3]	Long Guiro [EXC3]	Long Low Whistle [EXC2]
74	Claves	Claves	Claves	Short Guiro [EXC3]
75	High Woodblock	High Woodblock	High Woodblock	Long Guiro [EXC3]
76	Low Woodblock	Low Woodblock	Low Woodblock	Claves
77	Mute Cuica [EXC4]	Mute Cuica [EXC4]	Mute Cuica [EXC4]	High Woodblock
78	Open Cuica [EXC4]	Open Cuica [EXC4]	Open Cuica [EXC4]	Low Woodblock
79	Mute Triangle [EXC5]	Mute Triangle [EXC5]	Mute Triangle [EXC5]	Mute Cuica [EXC4]
80	Open Triangle [EXC5]	Open Triangle [EXC5]	Open Triangle [EXC5]	Open Cuica [EXC4]
81	Shaker	Shaker	Shaker	Mute Triangle [EXC5]
82	Jingle Bell	Jingle Bell	Jingle Bell	Open Triangle [EXC5]
83	Bar Chimes	Bar Chimes	Bar Chimes	Shaker
C6 84	Castanets	Castanets	Castanets	Jingle Bell
85	Mute Surdo [EXC6]	Mute Surdo [EXC6]	Mute Surdo [EXC6]	Bar Chimes
86	Open Surdo [EXC6]	Open Surdo [EXC6]	Open Surdo [EXC6]	Castanets
87	—	—	—	Mute Surdo [EXC6]
88	—	—	—	Open Surdo [EXC6]
				Applause

* -----: No sound.

* [EXC]: will not sound simultaneously with other percussion instruments of the same number.

SFX Set

28	27	---

29	30	---
31		---
	32	---
33		---
	34	---
35		---
C2	36	---
	37	---
	38	---
	39	High Q
	40	Slap
	41	Scratch Push [EXC7]
	42	Scratch Pull [EXC7]
	43	Sticks
C3	44	Square Click
	45	Metronome Click
	46	Metronome Bell
	47	Guitar Fret Noise
	48	Guitar Cutting Noise Up
	49	Guitar Cutting Noise Down
	50	String Slap of Double Bass
	51	Fl.Key Click
	52	Laughing
		Screaming
	53	Punch
	54	Heart Beat
C4	55	Footsteps 1
	56	Footsteps 2
	57	Applause
	58	Door Creaking
	59	Door
	60	Scratch
	61	Wind Chimes
	62	Car-Engine
	63	Car-Stop
	64	Car-Pass
	65	Car-Crash
	66	Siren
C5	67	Train
	68	Jet Plane
	69	Helicopter
	70	Starship
	71	Gun Shot
	72	Machine Gun
	73	Laser Gun
	74	Explosion
	75	Dog
	76	Horse-Gallop
	77	Birds
	78	Rain
C6	79	Thunder
	80	Wind
	81	Seashore
	82	Stream
	83	Bubble
	84	---
	85	---
	86	---
	87	---
	88	---

* -----: No sound.

* [EXC]: will not sound simultaneously with other percussion instruments of the same number.

Internal Song List

No.	Song name
1	La Fille aux Cheveux de Lin
2	La Campanella
3	Trio Grande
4	Scherzo No.2
5	Sonate No.15
6	Liebesträume 3
7	Étude, op.10-3
8	Je te veux
9	Valse, op.64-1
10	Golliwog's Cakewalk
11	Fantaisie-Impromptu
12	Arabesque 1
13	An der schönen, blauen Donau
14	Auf Flügeln des Gesanges
15	Mazurka No.5
16	Gymnopédie 1
17	Étude, op.25-1
18	Clair de Lune
19	Étude, op.10-5
20	Dr. Gradus ad Parnassum
21	Grande Valse Brillante
22	La prière d'une Vierge
23	Course en Troïka
24	To The Spring
25	Valse, op.64-2
26	Radetzky Marsch
27	Träumerei
28	Moments Musicaux 3
29	Prélude, op.28-15
30	Harmonious Blacksmith
31	Ungarische Tänze 5
32	Türkischer Marsch (Beethoven)
33	Nocturne No.2
34	Frühlingslied
35	Präludium

No.	Song name
36	Jägerlied
37	Menuet Antique
38	Für Elise
39	Türkischer Marsch (Mozart)
40	Ständchen
41	Humoreske
42	Blumenlied
43	Alpenglöckchen
44	Menuett G dur (Beethoven)
45	Venezianisches Gondellied
46	Alpenabendröte
47	Farewell to the Piano
48	Brautchor
49	Battle of Waterloo
50	Wiener Marsch
51	Le Coucou
52	Menuett G dur (Bach)
53	Spinnerlied
54	Gavotte
55	Heidenröslein
56	Zigeuner Tanz
57	La Cinquantaine
58	Csikos Post
59	Dolly's Dreaming Awakening
60	La Violette
61	Fröhlicher Landmann
62	Sonatine op.36-1 (Clementi)
63	Sonatine op.20-1 (Kuhlau)
64	Sonatine No.5 (Beethoven)
65	Fly Flee

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DIGITAL PIANO

Model F-110

MIDI Implementation Chart

Date : Mar. 1, 2009

Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1 1–16	1–16 1–16	
Mode	Default Messages Altered	Mode 3 x *****	Mode 3 Mode 3, 4 (M=1)	* 2
Note Number :	True Voice	15–113 *****	0–127 0–127	
Velocity	Note ON Note OFF	O O	O O	
After Touch	Key's Ch's	x x	O O	*1 *1
Pitch Bend		x	O	
Control Change	0, 32	O	O	*1 Bank select
	1	x	O	*1 Modulation
	5	x	O	*1 Portamento time
	6, 38	x	O	*1 Data entry
	7	x	O	*1 Volume
	10	x	O	*1 Panpot
	11	O	O	*1 Expression
	64	O	O	*1 Hold 1
	65	x	O	*1 Portamento
	66	O	O	*1 Sostenuto
	67	O	O	*1 Soft
	84	x	O	Portamento control
	91	O	O (Reverb)	Effect1 depth
	93	x	O (Chorus)	Effect3 depth
	98, 99	x	O	*1 NRPN LSB, MSB
	100, 101	x	O	*1 RPN LSB, MSB
Prog Change	: True #	0–127 *****	O 0–127	Program number 1–128
System Exclusive		O	O	
System Common	: Song Pos : Song Sel : Tune	x x x	x x x	
System Real Time	: Clock : Commands	O O	x x	
Aux Message	: All sound off : Reset all controllers : Local Control : All Notes OFF : Active Sense : Reset	x x x x O x	O (120, 126, 127) O O O O (123–125) O x	
Notes		* 1 O x is selectable by Sys Ex. * 2 Recognized as M=1 even if M≠1.		

Mode 1 : OMNI ON, POLY

Mode 2 : OMNI ON, MONO

O : Yes

Mode 3 : OMNI OFF, POLY

Mode 4 : OMNI OFF, MONO

X : No

Main Specifications

F-110: Digital Piano

<Keyboard>	
Keyboard	88 keys (PHA alpha II)
Touch Sensitivity	Off, L1, L2, M, H1, H2
Keyboard Modes	Whole, Dual (volume balance adjustable), Split (split point adjustable), Twin piano
<Sound Generator> 88-key Stereo Multi-sampled Piano Sound, Conforms to GM2/GS/XGlite	
Max. Polyphony	128 voices
Tones	306 tones (including 8 drum sets, SFX set)
Temperament	8 types, selectable tonic
Stretched Tuning	On/Off
Master Tuning	415.3–466.2 Hz (adjustable in increments of 0.1 Hz)
Transpose	Transpose: -6→+5 (in semitones) Playback Transpose: -6→+5 (in semitones)
Effects	Reverb (Off/1–10) String Resonance (only for piano tones, Off/1–10) Damper Resonance (only for piano tones, Off/1–10) Key Off Resonance (only for piano tones, Off/1–10)
Equalizer	3-band digital Equalizer
<Recorder>	
Tracks	3 tracks
Songs	Recorder Section: 1 song Internal Memory: Max. 99 songs
Note Storage	Approx. 30,000 notes
Control	Song Select, Play/Stop, Rec, Previous/Rewind, Next/Fast-forward, Track Mute, Tempo, Tempo Mute, All Song Play, Count-in, Count-down, Song Volume
Tempo	Quarter note = 10 to 500
Resolution	120 ticks per quarter note
Metronome	Beat: 2/2, 0/4, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 3/8, 6/8, 9/8, 12/8 Volume: 0–10
<Internal Memory>	
Songs	Max. 99 songs
Save Song	Standard MIDI Files (Format 0)
<Others>	
Internal Songs	65 songs
Rated Power Output	12 W x 2
Speakers	8 cm x 12 cm x 2
Display	7 segments, 3 characters, LED
Control	Volume
Pedals	Damper (half-pedal recognition) Soft (half-pedal recognition, function assignable) Sostenuto (function assignable)
Other Functions	Panel Lock, V-LINK

Connectors	DC inlet Pedal connector Input jacks (L/Mono, R) Output jacks (L/Mono, R) MIDI connectors (IN, OUT) Phones jack (Stereo) x 2
Power Supply	DC 12 V
Power Consumption	48 W
Dimensions	1361 (W) x 302 (D) x 778 (H) mm / 53-5/8 (W) x 11-15/16 (D) x 30-11/16 (H) inches (With lid closed) 1361 (W) x 342 (D) x 778 (H) mm / 53-5/8 (W) x 13-1/2 (D) x 30-11/16 (H) inches (With lid closed, stabilizers* mounted) 1361 (W) x 305 (D) x 910 (H) mm / 53-5/8 (W) x 12-1/16 (D) x 35-7/8 (H) inches (With lid open) 1361 (W) x 342 (D) x 910 (H) mm / 53-5/8 (W) x 13-1/2 (D) x 35-7/8 (H) inches (With lid open, stabilizers* mounted) * The stabilizers are the protruding parts at the back of the two side boards that ensure optimum stability.
Weight	35 kg / 77 lbs 3 oz
Accessories	Owner's manual AC Adaptor Power Cord (for connecting AC Adaptor) Headphones Hook

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

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For EU Countries



- UK** This symbol indicates that in EU countries, this product must be collected separately from household waste, as defined in each region. Products bearing this symbol must not be discarded together with household waste.
- DE** Dieses Symbol bedeutet, dass dieses Produkt in EU-Ländern getrennt vom Hausmüll gesammelt werden muss gemäß den regionalen Bestimmungen. Mit diesem Symbol gekennzeichnete Produkte dürfen nicht zusammen mit den Hausmüll entsorgt werden.
- FR** Ce symbole indique que dans les pays de l'Union européenne, ce produit doit être collecté séparément des ordures ménagères selon les directives en vigueur dans chacun de ces pays. Les produits portant ce symbole ne doivent pas être mis au rebut avec les ordures ménagères.
- IT** Questo simbolo indica che nei paesi della Comunità europea questo prodotto deve essere smaltito separatamente dai normali rifiuti domestici, secondo la legislazione in vigore in ciascun paese. I prodotti che riportano questo simbolo non devono essere smaltiti insieme ai rifiuti domestici. Ai sensi dell'art. 13 del D.Lgs. 25 luglio 2005 n. 151.
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- DK** Dette symbol angiver, at i EU-lande skal dette produkt opsamles adskilt fra husholdningsaffald, som defineret i hver enkelt region. Produkter med dette symbol må ikke smides ud sammen med husholdningsaffald.
- NO** Dette symbolet indikerer at produktet må behandles som spesialavfall i EU-land, iht. til retningslinjer for den enkelte regionen, og ikke kastes sammen med vanlig husholdningsavfall. Produkter som er merket med dette symbolet, må ikke kastes sammen med vanlig husholdningsavfall.

- SE** Symbolen anger att i EU-länder måste den här produkten kasseras separat från hushållsavfall, i enlighet med varje regions bestämmelser. Produkter med den här symbolen får inte kasseras tillsammans med hushållsavfall.
- FI** Tämä merkintä ilmaisee, että tuote on EU-maissa kerättävä erillään kotitalousjätteistä kunkin alueen voimassa olevien määräysten mukaisesti. Tällä merkinnällä varustettuja tuotteita ei saa hävittää kotitalousjätteiden mukana.
- HU** Ez a szimbólum azt jelenti, hogy az Európai Unióban ezt a terméket a háztartási hulladéktól elkülönítve, az adott régióban érvényes szabályozás szerint kell gyűjteni. Az ezzel a szimbólummal ellátott termékeket nem szabad a háztartási hulladék közé dobni.
- PL** Symbol oznacza, że zgodnie z regulacjami w odpowiednim regionie, w krajach UE produktu nie należy wyrzucać z odpadami domowymi. Produktów opatrzonych tym symbolem nie można utylizować razem z odpadami domowymi.
- CZ** Tento symbol udává, že v zemích EU musí být tento výrobek sbírán odděleně od domácího odpadu, jak je určeno pro každý region. Výrobky nesoucí tento symbol se nesmí vyhazovat spolu s domácím odpadem.
- SK** Tento symbol vyjadruje, že v krajinách EÚ sa musí zber tohto produktu vykonávať oddelene od domového odpadu, podľa nariadení platných v konkrétnej krajine. Produkty s týmto symbolom sa nesmú vyhazovať spolu s domovým odpadom.
- EE** See sümbol näitab, et EL-i maades tuleb see toode olemprügist eraldi koguda, nii nagu on igas piirkonnas määratletud. Selle sümboliga märgitud tooteid ei tohi ära visata koos olmeprügiga.
- LT** Šis simbolis rodo, kad ES šalyse šis produktas turi būti surenkamas atskirai nuo buitinių atliekų, kaip nustatyta kiekviename regione. Šiuo simboliu paženklinoti produktai neturi būti išmetami kartu su buitinių atliekomis.
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